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ICONES ORCHIDACEARUM

Fascicle 2

THE GENUS EPIDENDRUM

Part 1

"A Century of New Species in Epidendrum"

Eric Hágsater

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ICONES ORCHIDACEARUM

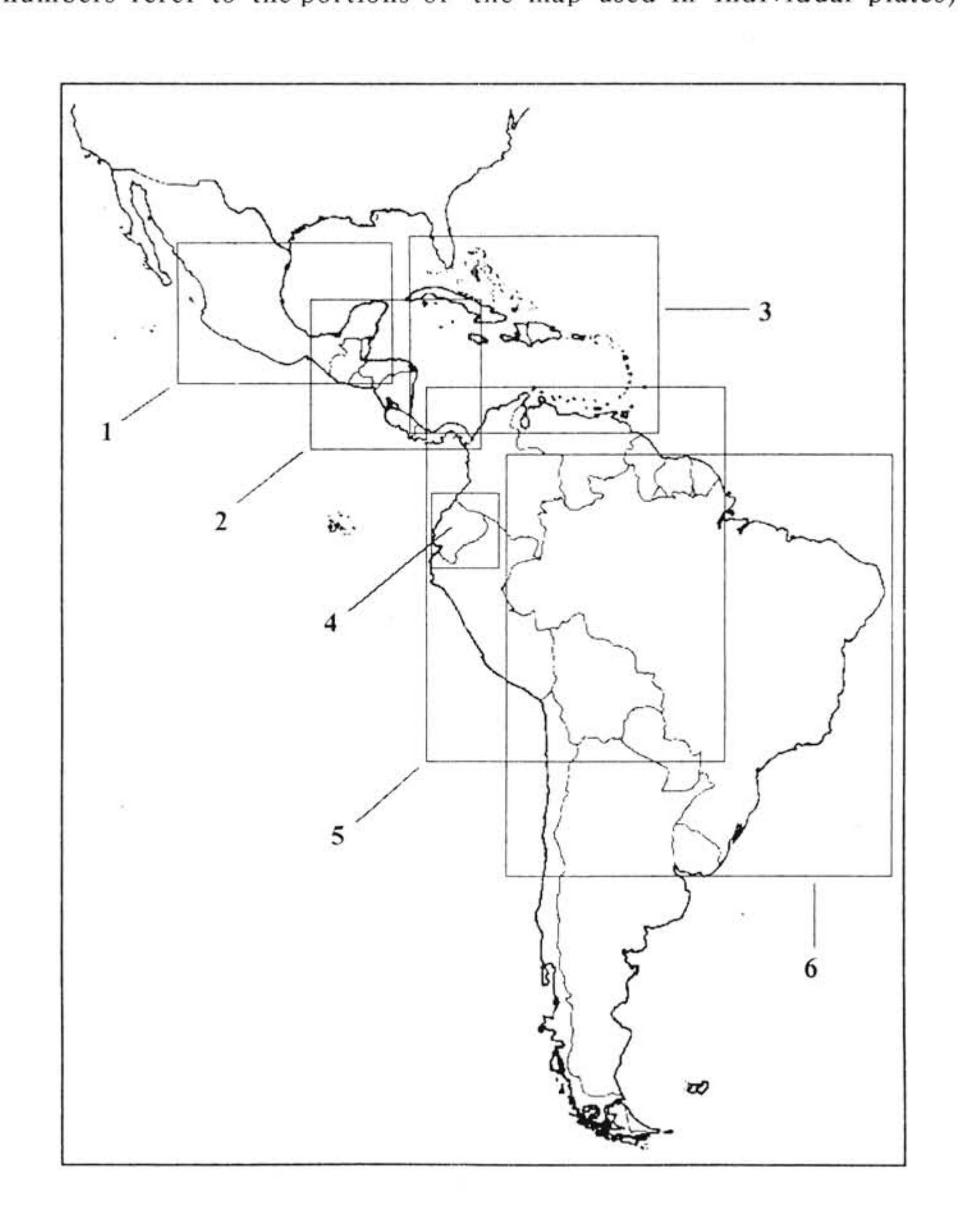
Fascicle 2, plates 101 to 200

THE GENUS *EPIDENDRUM*
Part 1

"A Century of New Species in *Epidendrum*"

Reference Map

TROPICAL AMERICA
(numbers refer to the portions of the map used in individual plates)



ICONES ORCHIDACEARUM
Fascicle 2, plates 101 to 200

The Genus *Epidendrum*, Part 1
"A Century of New Species in *Epidendrum*"

Foreword

With this second fascicle of Icones Orchidacearum, we initiate the publication of plates corresponding to species of the genus *Epidendrum* distributed throughout the Neotropics. Our intention is to make available the material we have been preparing for the past twenty years, since Glenn E. Pollard and I agreed to work on the genus together. It soon became apparent that it would be impossible to understand the genus in Mexico if studies were limited to those species found in this politically defined area.

Thus, together with Robert L. Dressler, at the time living in Panama, Calaway H. Dodson in Ecuador, and many others, the quest for an understanding of the genus *Epidendrum* continued. There have been many field trips, visits to many live collections of amateurs and exhibitions throughout the region. Plants have been brought to Mexico and cultivated here, where they have flowered, thus allowing for the preparation of detailed drawings and color photographs, as well as descriptions. The help of numerous amateurs has been essential, as it would be impossible to attempt collecting so many species of such a large genus directly in the field. The fact that amateurs have done a very important part of the field work must be appreciated, not least by authorities and conservationist groups who often frown at private collections as plunderers of the wild. If it were not for private collectors' knowledge of species of particular areas of diversity, and the care they are willing to give to their collections, we would know much less about nature's diversity.

In addition, most of the main herbaria where collections of neotropical orchids are held have been either visited and photographed, or material has been received on loan. These herbaria include AMES, AMO, ARIZ, AAU, BM, BR, BUD, CAS, CAY, CHAPA, CHIP, CM, CR, CUVC, CUZ, E, ECNB, F, FCME, G, GB, GUAT, HABE, HAC, HAJB, HB, IBUG, IEB, IJ, JAUM, K, L, LL, M, MA, MEXU, MG, MICH, NY, P, PR, QCA, QCNE, RB, S, SEL, SJ, SP, U, UAMIZ, UB, UCLA, UPRRP, US, USJ, UVAL, VEN, W, WU, Z, as well as some private herbaria such as those of Jany Renz, Robert L. Dressler and Pedro Ortiz Valdivieso. Without help from the directors, curators and staff of these herbaria, such a project would be impossible.

There are a few things which have become apparent during these years: how poorly the diversity of species is represented in herbaria; many species are represented by a handful of specimens. No wonder some groups of species have been considered as "variable" species. In many cases a herbarium may have several species under one name.

Little is known about the ecology of most *Epidendrum* species, and herbarium labels mostly avoid recording any part of such data. Without at least some information on the habitat preferences and distribution of species (at least fairly precise locality data and habitat notes), searches for adequate characters for making taxonomic judgments are more difficult than need be. When we can overlay distribution maps on vegetation and ecosystem maps, understanding the complex entities we call species is made much more certain.

The use of non-floral features in the determination of species in *Epidendrum* has been grossly neglected, though some attempts to group the species into several genera show that oversimplified approaches should be avoided. Characters useful in some analyses, and which we do use, are: type of growth, type of inflorescence and how it develops, presence and number of spathes and bracts, when and how flowers appear and open, shape, number, and substance of leaves. These features, even more than those of floral segments, help to identify natural groups and individual species.

Unfortunately, traditionally botanists have given the floral segments, the perianth, excessive importance as taxonomic characters, and minimized use of the rest of the plant, including even the other parts of the flower. In some cases this has been deliberate; Ames criticized Schlechter severely for using column details in defining genera in the Spiranthinae ("-recondite details-"). The result of this practice has been the publishing of descriptions that may be correct, but are inadequate at the taxonomic level concerned.

In this series of *Epidendrum* species, we have made an attempt to avoid the causes of earlier confusion. The descriptions and drawings have been standardized as far as possible, so that comparisons are made meaningful. The illustrations show characters needed for species determinations, and will help to avoid problems of interpretation of technical descriptive terms.

We still know very little about *Epidendrum*. A few students have worked on various groups of species and on various characters. Their help in getting to understand the genus better has been invaluable, but there is still much to study. It is interesting how some of these features have come under closer scrutiny in other groups of plants and other genera of orchids. As we study more species, this complex web of differences becomes increasingly interesting, and a number of new relationships seem to become clear.

On the other hand, it is not until a number of species in a group have been cultivated together, illustrated and studied, that the specific differences become apparent. The distinguishing features vary from one group to another, and what may have been clues to differentiation in one group are totally useless in another. Very few groups have been studied to any extent. With this fascicle, the "difforme" group begins to take shape, though we have not yet published illustrations for most of the previously published species. It is thanks to Luis Sánchez of AMO, who has studied the group in detail, that this is possible; he coauthors a number of species in this fascicle and has participated extensively in the preparation of the rest of the texts for this group. Javier García Cruz, also of AMO, is studying the "anisatum" group, endemic to Mexico, and coauthors three new species of this group.

It has been a pleasure to work in the field and in the herbarium with Calaway H. Dodson, who has lived most of his life in Ecuador. With him I am collaborating in the preparation of a part of the Flora of Ecuador. Working together, we have been able to identify vegetative characters which facilitate the identification of groups of species, many of them natural groups. Thanks to his knowledge of the Andean species, we have recognized a number of plants we propose here as new species.

Robert L. Dressler has been my mentor, and together we have collected in Panama, Mexico, Costa Rica and Colombia. I thank him once more for participating here. Germán Carnevali of Venezuela, Martha Aleida Díaz of Cuba and Francisco Miranda of Brazil have been of great help and coauthor various species here. Walter Scheeren, with whom I have not corresponded for years, left specimens annotated at AMES, but never published *E. nicaraguense*.

Most of the illustrations have been prepared by Rolando Jiménez Machorro, from both living plants and herbarium specimens. He has developed an invaluable understanding of details, and helped in preparing descriptions. In the preparation of the texts, Gerardo Salazar, Fernando Chiang and Ed Greenwood have been of great help.

It is evident that this first fascicle on *Epidendrum* is the result of team-work. We continue working on other new taxa, as well as in the preparation of studies of those previously published but poorly understood and rarely illustrated. I hope this fascicle will help others to better understand this large and complicated genus.

Eric Hágsater

Mexico City, October 1993

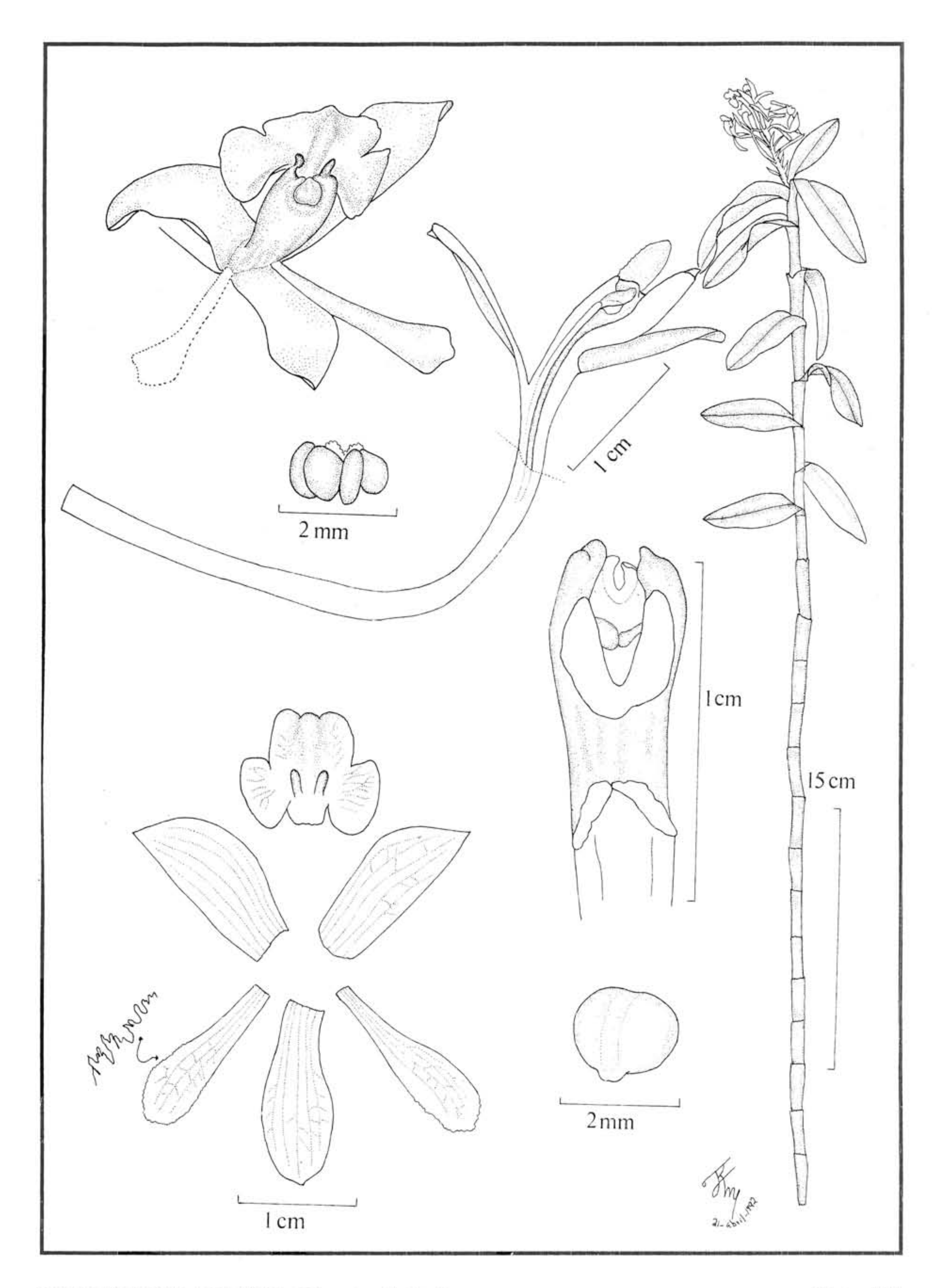
ICONES ORCHIDACEARUM

Fascicle 2, plates 101 to 200

THE GENUS *EPIDENDRUM*
Part 1:

"A Century of New Species in *Epidendrum*"

Index to Plates



EPIDENDRUM ADAMSII Hágsater & Dodson

Plate 101

Text on the reverse side

EPIDENDRUM ADAMSII Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Pichincha: Km 87 Quito to Sto. Domingo (old road), 1400 m, 15 June 1967, *C. Dodson, N. H. Williams & R. Adams 3743*, RPSC!* (illustration voucher.)

Epidendro decurvifloro Schltr. simile, sed floribus viridibus et labello trilobato differt.

Hierba epífita, cespitosa, ramificada arriba, ca. 70 cm de alto. **Raíces** no vistas. **Tallos** erectos, rectos, teretes, ramificados arriba cuando maduros, ca. 65 cm de alto, ramas producidas cerca del ápice del tallo principal. **Hojas** distribuidas a todo lo largo del tallo; vaina tubular estriada y finamente rugosa en material seco, 3-4 x 0.4-0.8 cm; lámina elíptico-lanceolada, ápice bilobado-retuso, 5-7 x 1.6-2.3 cm. **Inflorescencia** terminal, florece una sola vez, racemosa, erecta, sin espata ni brácteas basales, corta, ca. 5 cm de largo. **Bráctea floral** triangular, acuminada, más corta que el ovario, 3-11 x 1-3 mm. **Flores** ca. 15-20, simultáneas, no resupinadas, "verdes". **Ovario** delgado, recto, no ornamentado, 20-32 mm de largo. **Sépalo dorsal** obovado, redondeado, apiculado, 5-nervado, 12-14 x ca. 5 mm. **Sépalos laterales** oblicuamente obovados, agudos, con una quilla apical poco prominente, 5-nervados, 15 x 5-6 mm. **Pétalos** oblanceolado-espatulados, redondeados, márgenes finamente eroso-lacerados, 3-nervados, 13 x 4 mm. **Labelo** unido a la columna, trilobado, bicalloso, con una quilla roma, gruesa, carnosa, baja, que forma un apículo ancho y redondeado en el ápice del lóbulo medio, base cordada, 8-10 x 12 mm; lóbulos laterales oblicuamente ovados, margen externo redondeado, entero; lóbulo medio subcuadrado, ápice emarginado, seno amplio, con un apículo romo. **Columna** corta, gruesa, arqueada, 10-12 mm de largo **Clinandrio** obsoleto, entero. **Antera** reniforme, con una quilla roma al frente. **Polinios** 4, obovoides, lateralmente comprimidos, caudículas cortas, viscidio semilíquido. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** prominentes. **Nectario** profundo, penetrando aparentemente 1/3 del ovario. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stems** erect, terete, branching above in mature plants. **Leaves** distributed throughout the stems, sheath finely rugose, blade elliptic-lanceolate, apex bilobed-retuse. **Inflorescence** terminal, flowers only once, racemose, erect, without spathe or basal bracts. **Floral bract** triangular, acuminate, shorter than ovary. **Flowers** ca. 15-20, simultaneous, non-resupinate, "green". **Ovary** thin, straight. **Dorsal sepal** obovate, rounded, apiculate, 5-veined. **Lateral sepals** obliquely obovate, acute, with a dorsal apical keel, 5-veined. **Petals** oblanceolate-spatulate, rounded, margins finely erose-lacerate, 3-veined. **Lip** united to the column, 3-lobed, cordate, bicallose, with a thick, rounded keel running down the middle to form a rounded apicule at the apex of the midlobe; lateral lobes obliquely ovate, outer margin rounded, entire; midlobe subquadrate, apex emarginate, forming a wide sinus. **Column** short, thick, arcuate. **Clinandrium** obsolete, entire. **Anther** reniform, with a low keel in front. **Pollinia** 4, obovoid, laterally compressed; caudicles short; viscidium semiliquid. **Nectary** deep, apparently penetrating 1/3 of the ovary.

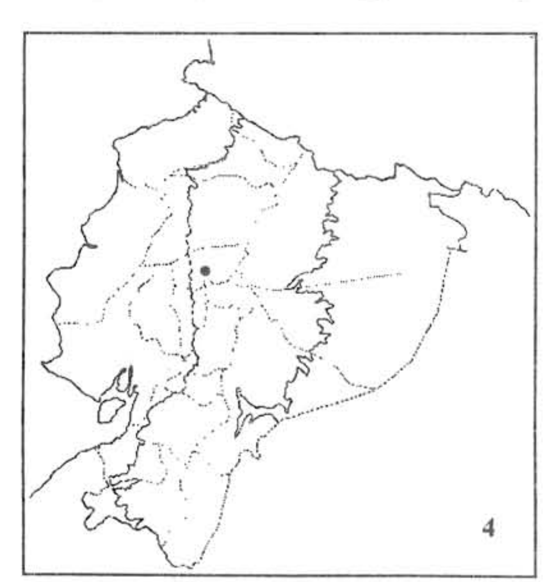
DISTRIBUTION AND ECOLOGY: Known only from the type. Reported as epiphyte on orange trees at 1400 m altitude. Flowering in June. Bulbophyllum steyermarkii Foldats was found in the same orange grove, and is an unusual distribution since it is normally found at 2500-2700 m altitude.

RECOGNITION: Epidendrum adamsii appears to be closely related to E. decurviflorum Schltr., a species native to Colombia and found at higher altitudes, with yellowish-ochre flowers and a purplish tinge around the disc of the entire lip. Epidendrum adamsii can be recognized by the erect stems branching near the apex when mature, the short raceme of non-resupinate, simultaneous, green flowers, the 3-lobed lip, and the oblanceolate-spatulate petals finely erose-lacerate. Another similar species is E. pozoi Hágsater & Dodson, which has a noticeably longer ovary, narrower, rounded sepals, petals with entire margins, the lip somewhat larger, the lateral lobes with the outer margin straigth, and the midlobe suborbicular, obscurely emarginate and minutely apiculate.

***NOTE:** The specimen Dodson, Williams & Adams 3743 at AAU! does not corrèspond to the same species. This specimen has larger flowers, but otherwise appears to belong to the same group of species. There is, therefore, doubt as to which of the specimens bear the correct label information, or maybe the two were collected together, though they are obviously different.

CONSERVATION STATUS: Unknown.

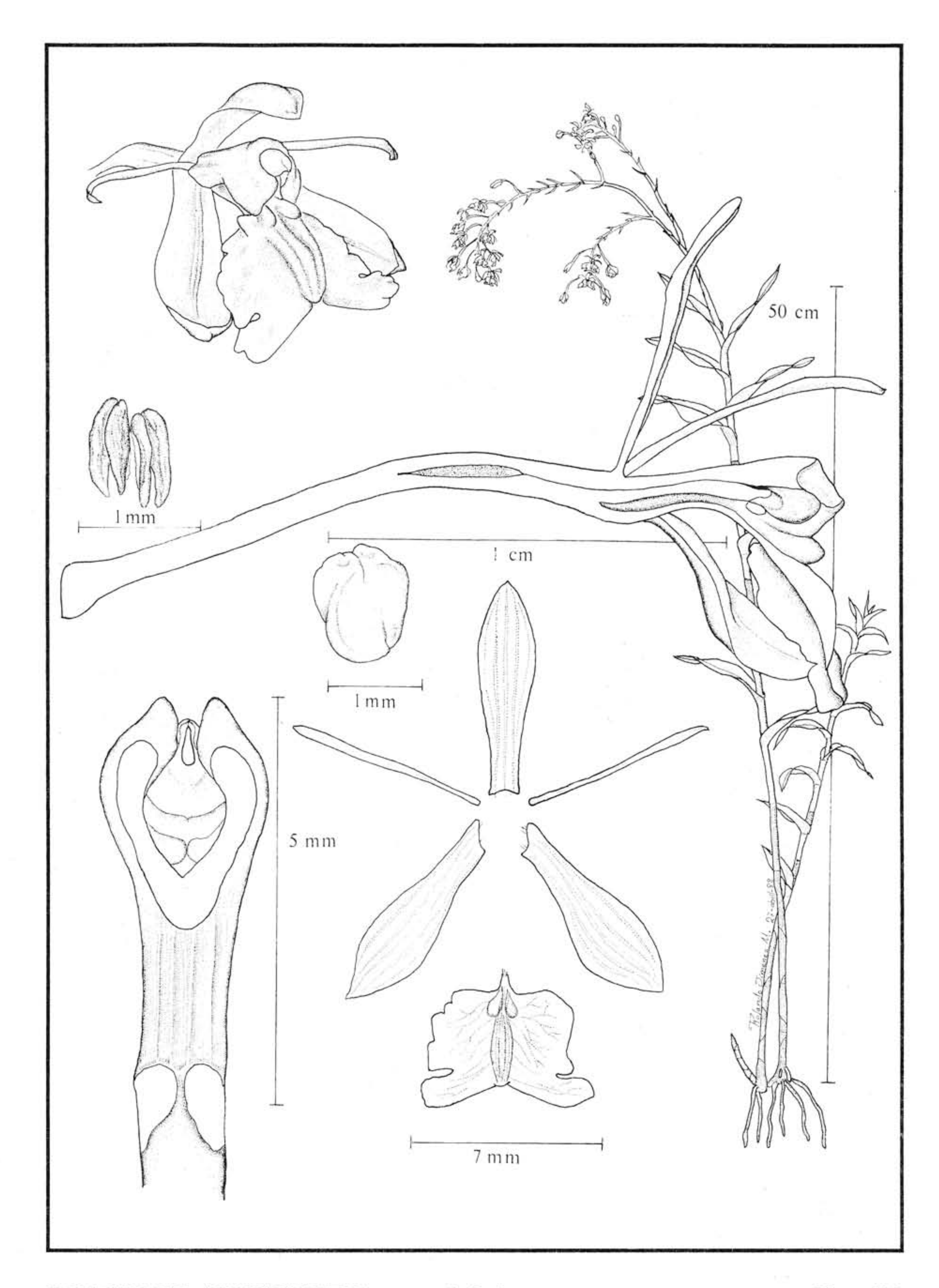
ETYMOLOGY: Named after Ralph Adams, currently Professor at the Florida Atlantic University in Boca Ratón, Florida, who participated in the collection of the type.



Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

Herbario de la Asociación Mexicana de Orquideología, A.C.

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EPIDENDRUM AGOYANENSE Hágsater & Dodson

Text on the reverse side

Plate 102

EPIDENDRUM AGOYANENSE Hágsater *et* Dodson, *sp. nov.*

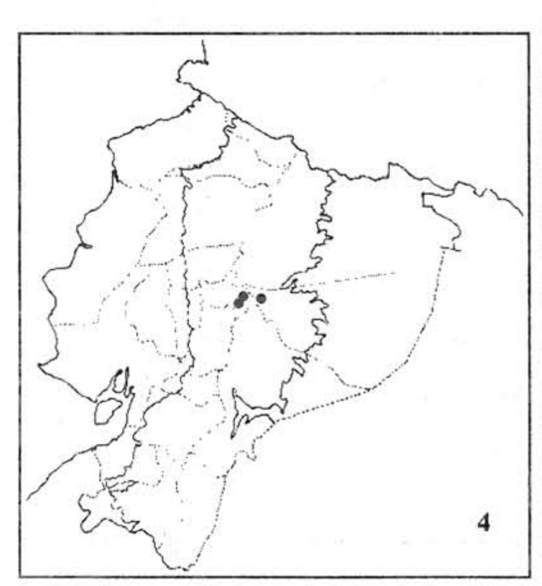
Holotype: ECUADOR: Tungurahua: Agoyan, entre Río Blanco y Río Verde, 2 km abajo del túnel, 1580 m, colecta 9 diciembre 1986, prensado 19 febrero 1990, *E. Hágsater & C. H. Dodson 9121*, QCNE! Isotypes: AMO! RPSC! Clonotypes: 28 abril 1988, AMES! (illustration voucher.) 23 septiembre 1991, AAU! 18 abril 1992, SEL!

Epidendro paniculato Ruiz & Pav. simile, sed floribus viridibus, apice columnari labelloque albis immaculatis differt.

Hierba litófita o terrestre, cespitosa, 30-120 cm de alto. **Raíces** basales, carnosas, 1.5-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 25-95 cm de largo, 3.5-6 mm de grosor en el tercio apical. **Hojas** 10-15, distribuidas en los dos tercios apicales del tallo; vaina tubular, lisa, 1.5-3 cm de largo; lámina ovado-elíptica, aguda, margen entero, lisa, verde oscuro, 4-16 x 1.6-4.7 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, paniculada, suberecta, 7-40 cm de largo; raquis ligeramente anguloso, ligeramente rugoso al tacto en fresco; pedúnculo sin espata; brácteas basales 1-3, acuminadas, conduplicadas, las superiores generalmente divergiendo del pedúnculo, hasta 9 cm de largo; brácteas de las ramas largas, pero más cortas que las del pedúnculo. **Bráctea floral** de mucho más corta a más larga que el ovario, triangular, acuminada, 2-12 (19) mm de largo. **Flores** 14-160, simultáneas, resupinadas, sin fragancia apreciable; sépalos, pétalos y mitad basal de la columna verde manzana, mitad apical de la columna, labelo y antera blancos, tornándose amarillentos al envejecer. **Ovario** no inflado, ligeramente dilatado en el tercio apical, terete, no ornamentado, 13-20 mm de largo. **Sépalos** extendidos, libres, sin quilla dorsal, carnosos, angostamente espatulado-oblanceolados, obtusos, márgenes extendidos, 5-nervados, 9.5-12 x 2.5-3.5 mm. **Pétalos** extendidos, angostamente lineares a filiformes, dilatados hacia el ápice, obtusos, márgenes extendidos, membranáceos, uninervados, 9-11 x 0.6 mm (ancho cerca del ápice). **Labelo** unido a la columna, 4-lobado, bicalloso, disco con tres carinas centrales prominentes, romas, la central llegando hasta el seno apical, las laterales mas cortas, algo más ancho entre los lóbulos apicales que entre los basales, 5-5.5 x 6.5-10 mm; lóbulos basales subcuadrados, con márgenes irregulares; lóbulos apicales subrectangulares, fuertemente divaricados (subopuestos), separados de los basales por senos muy angostos o en ocasiones unidos a ellos. **Columna** recta, delgada, 6-7.5 mm de largo incluyendo el clinandrio. Clinandrio obsoleto, margen entero. **Antera** subesférica, 4-locular. **Polinios** 4, tipo "ala de pájaro", fuertemente comprimidos lateralmente, transparentes, los interiores algo menores; caudículas suaves y lisas, ligeramente más cortas que los polinios; viscidio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de alrededor de la mitad del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando sólo hasta la base del perianto, liso. **Cápsula** no vista.

Lithophytic or terrestrial, caespitose herb. **Stems** simple, straight, reed-like. **Leaves** ovate-elliptic, acute, dark green. **Inflorescence** terminal, flowers only once, paniculate, suberect, with 1-3 large bracts near the base. **Flowers** simultaneous, resupinate, light green except for the lip and the apical half of the column which are white, immaculate, turning yellowish as they fade. **Sepals** spreading, spatulate-oblanceolate, obtuse, 5-veined. **Petals** spreading, narrowly linear to filiform, 1-veined. **Lip** 4-lobed, bicallose, 3-carinate; basal lobes subquadrate, margins irregular; apical lobes subrectangular, divaricate, separated from the lateral lobes by very narrow sinuses, or fused to them. **Column** straight, slender. **Clinandrium** obsolete. **Anther** subspherical, 4-celled. **Pollinia** 4, "bird-wing" type, strongly laterally compressed, transparent; caudicles soft and smooth; viscidium semiliquid. **Rostellum** subapical, slit. **Nectary** very shallow, penetrating only to the base of the perianth.

OTHER SPECIMENS: ECUADOR: **Pastaza:** Harling 10119, AMES! GB! Harling et al. 7797, GB! S! Lugo 462, GB! **Tungurahua:** Asplund 7607, G!, NY, S!, 10036, S!, 18729, AMES! K! NY! Dodson 1708A, MO! Dodson & Bermeo 5677, RPSC! Dodson & Thien 884, QCA!, 1832, SEL! 2279, QCA! SEL! Hágsater & Dodson 9109, GB! NY! W! 9110, CUVC! GB! QCNE! S! SEL! 9118, K! 9120, QCA! Lugo 720, AMES! GB! 1788, GB! 1905, GB! 1906, AMES! GB! 1907 GB! 1908, GB! 4801, GB! S! Mexia 7025, US(x 2)! Madsen et al. 36515, AAU! QCA! Pendland & Summers 258, AMES!



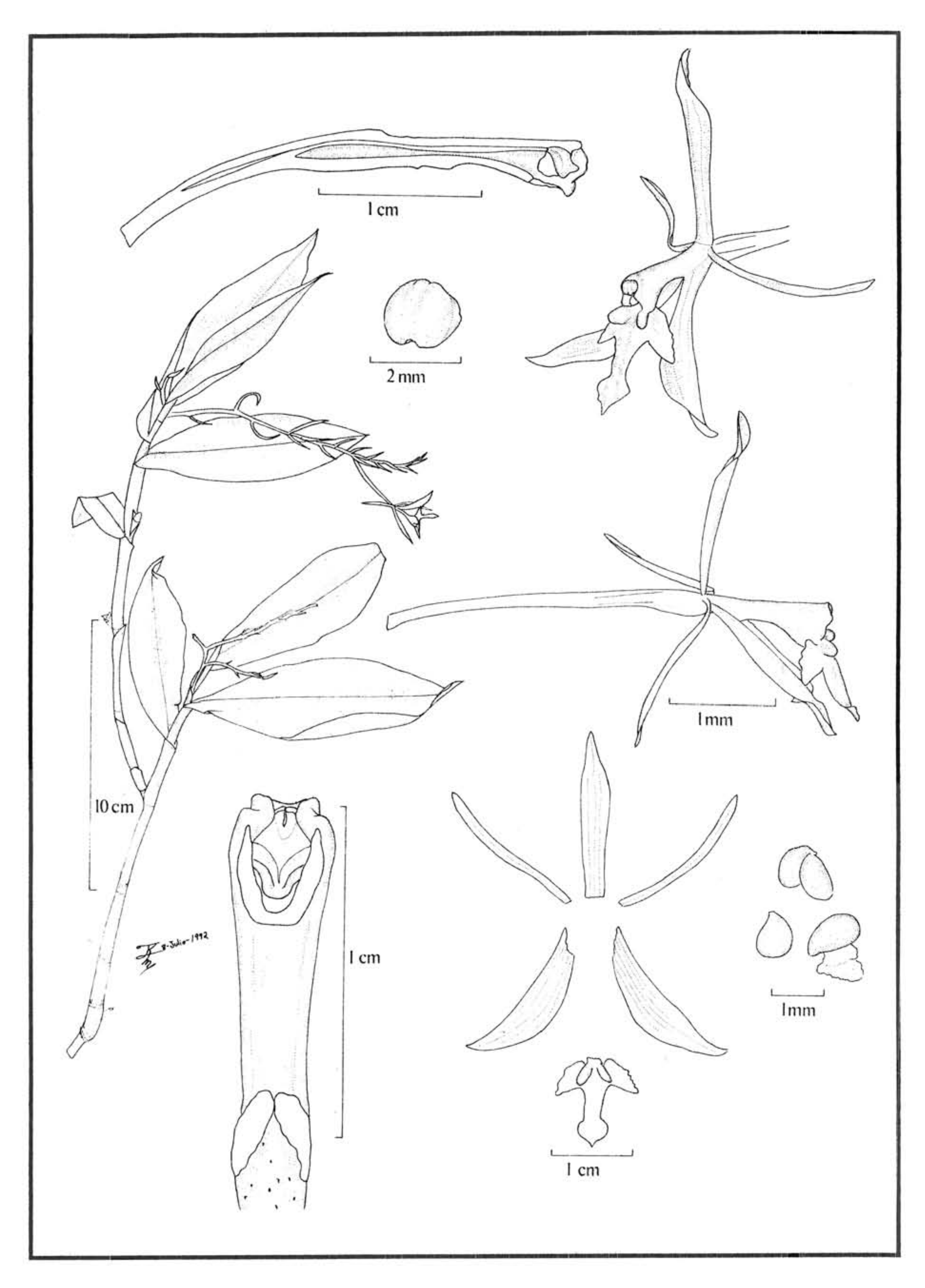
DISTRIBUTION AND ECOLOGY: Apparently endemic to Ecuador, from the eastern slopes of the Andes in Pastaza and Tungurahua. All collections seem to come from the area of Agoyan, on the Pastaza river between Río Verde and Río Blanco, growing on granitic rock among grasses, on cliffs and steep slopes at 1100-1600 m altitude. Flowering from December to April.

RECOGNITION: Epidendrum agoyanense is a member of the E. paniculatum Ruiz & Pav. complex, being easily distinguished by the light green flowers with the apical half of the column and the lip white, unmarked (when wilting, the flowers tend to turn yellow overall), rather small (dorsal sepal 9.5-12 mm long) and the apical lobes of the lip widely divaricate, nearly opposite, with a narrow sinus separating them from the basal lobes, or sometimes united to them.

CONSERVATION STATUS: Unknown. The species seems to be locally abundant in disturbed grass-covered areas. Though only known presently from a very reduced range, this may be because of lack of systematic collecting at the same altitude up and down the Andean range.

ETYMOLOGY: Named after the Agoyan waterfalls and hydroelectric project on the Río Pastaza.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar



EPIDENDRUM ALEXII Hágsater & Dodson

Text on the reverse side

Plate 103

EPIDENDRUM ALEXII Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Morona-Santiago: Road Cuenca to Limón via Gualaceo, 2500 m, 16 February 1986, *A. Hirtz 2755, C. Luer, J. Luer & A. Embree*, RPSC! (illustration voucher.)

Epidendro arbusculae Lindl. simile, sed petalis linearibus, labello trilobato, lobis lateralibus dolabriformi-triangularibus, obliquis, lobo mediano lineari-spatulato, apice expanso, apiculato.

Hierba epífita, de simpodio erecto donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, 30-60 cm de alto. Raíces de la base de la planta y ocasionalmente de la base de un tallo superior, carnosas, gruesas. **Tallos** sencillos, tipo caña, teretes, rectos, 15-18 cm de largo, 3-5 mm de grosor. **Hojas** 3-4, agrupadas hacia el ápice de cada tallo; vaina tubular, lisa, hasta 4.5 cm de largo; lámina angostamente elíptica, aguda, margen entero, herbácea, lisa, verde, 4-13 x 1.7-3.8 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa a paniculada, colgante, 7-12 cm de largo; pedúnculo terete, recto, no ornamentado, sin espata ni brácteas. **Bráctea floral** de un poco más de la mitad del largo del ovario, triangular, acuminada, 7-20 mm de largo. **Flores** ca. 15, sucesivas, resupinadas, "blancas". **Ovario** inflado ventralmente hacia el ápice formando una pequeña vesícula, terete, 28-30 mm de largo. **Sépalos** extendidos, libres, con quilla dorsal inconspicua en los laterales, glabros, membranáceos. **Sépalo dorsal** angostamente oblanceolado, agudo, márgenes extendidos, 3-nervado, 17-20 x 3.5 mm. **Sépalos laterales** angostamente elípticos, agudos, fuertemente falcados, márgenes extendidos, 5-nervados, 18-20 x 5 mm. **Pétalos** extendidos, lineares, agudos, márgenes extendidos, membranáceos, 1-nervados, 17-20 x 1 mm. **Labelo** unido a la columna, trilobado, bicalloso, 9-11 x 9-11 mm; lóbulos laterales oblicuamente dolabriforme-triangulares, margen externo eroso, ápice agudo; lóbulo medio más grande que los laterales, largamente linear-espatulado, dilatado cerca del ápice en un par de prominencias semiorbiculares, apiculado, márgenes enteros. **Columna** recta, delgada, 11-12 mm de largo incluyendo el clinandrio. **Clinandrio** obsoleto, margen entero. **Antera** subesférica, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas suaves y granulosas. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** muy grandes. **Nectario** poco profundo, penetrando 1/4 del ovario, expandido hacia el fondo, liso interiormente. **Cápsula** no vista.

Epiphytic herb. Roots fleshy, from the base of the plant and occasionally from the base of one of the upper stems. **Stems** reed-like, the new stems produced from a middle internode of the previous stem. **Leaves** 3-4, narrowly elliptic, acute, herbaceous, produced near the apex of the stem. **Inflorescence** terminal, from the mature stem, flowers only once, pendent, racemose to paniculate. **Flowers** ca. 15, successive, resupinate, "white". **Sepals** narrowly oblanceolate, acute, 3- to 5-veined, membranaceous, the lateral ones strongly falcate. **Petals** linear, acute, 1-veined. **Lip** united to the column, 3-lobed, base cordate, bicallose; lateral lobes obliquely dolabriform-triangular, apex acute, outer margins erose; midlobe long linear-spatulate, expanded near the apex into two semiorbicular prominences, apiculate. **Column** straight. **Clinandrium** entire, short. **Anther** subspherical, 4-celled. **Pollinia** 4, obovoid, laterally compressed. **Nectary** penetrating 1/4 of the ovary, dilated towards the base.

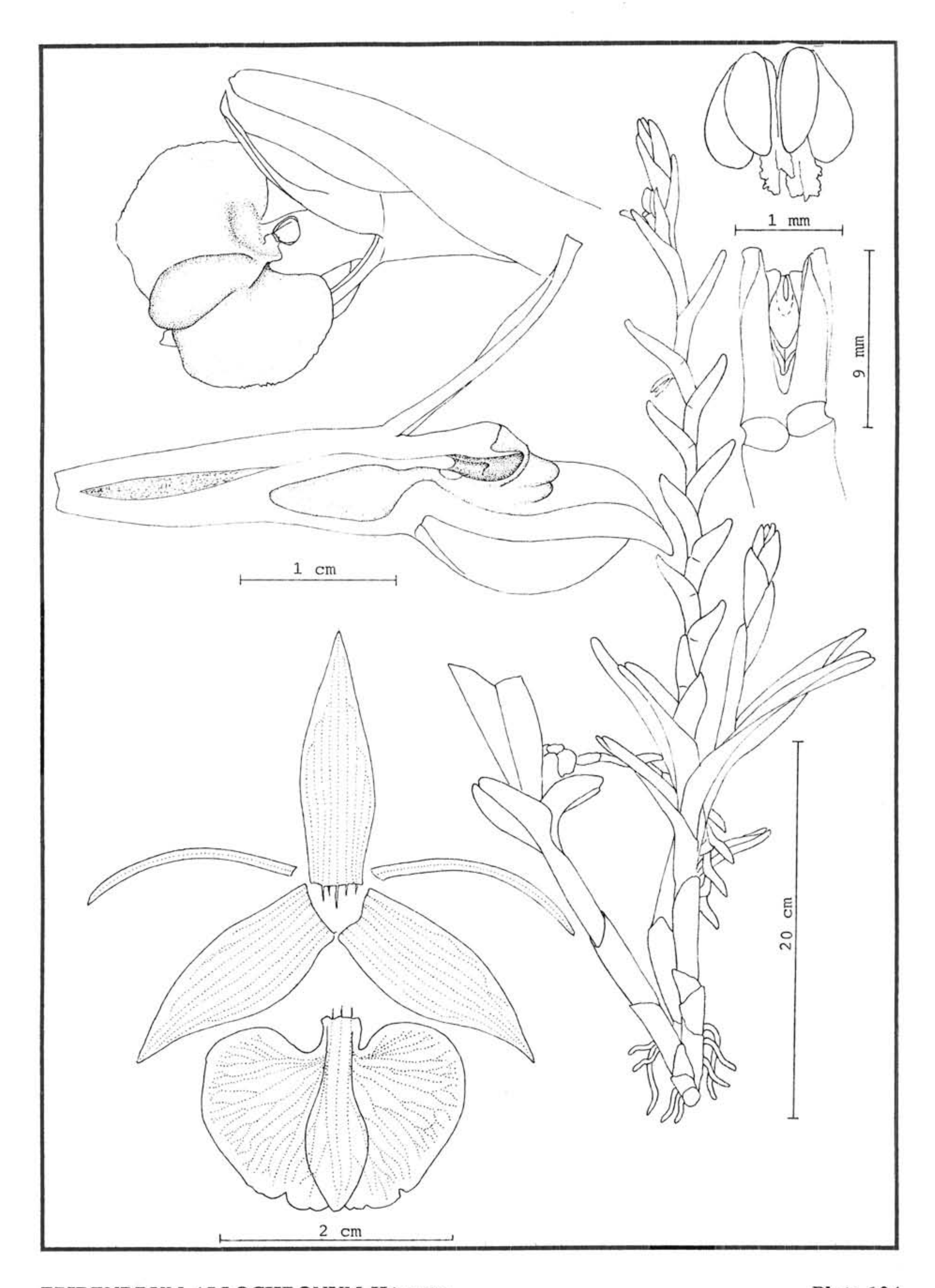
DISTRIBUTION AND ECOLOGY: Known only from the type. Flowering in January and February.

RECOGNITION: The successive stems, each produced from a middle internode of the previous stem, the pendent, 15 flowered, often paniculate inflorescence and the membranaceous, white flowers with a 3-lobed lip, the small lateral lobes obliquely dolabriform-triangular and the linear-spatulate, long midlobe dilated near the apex into two semiorbicular prominences, easily distinguish this species. Most other species in the E. arbuscula Lindl. group have reniform, cordiform or 3-lobed lips with the lateral lobes larger than the midlobe, the latter never elongate and dilated towards the apex.

CONSERVATION STATUS: Unknown.

ETYMOLOGY: In honor of Alex Hirtz, Ecuadorean mining engineer and collector, photographer and student of orchids.





EPIDENDRUM ALLOCHRONUM Hágsater

Text on the reverse side

Plate 104

EPIDENDRUM ALLOCHRONUM Hágsater, *nom. et stat. nov.*

Based on: *Epidendrum coriifolium* Lindl. var. *purpurascens* Schltr., Fedde Repert. 17: 31. 1922. Holotype: PANAMA: Chiriquí, 3800-4500 ft, 16 Sept. 1919, *C.W. Powell 119*, B (destroyed). Lectotype (here designated): a duplicate of the same collection, K! (photo AMES 26044!). Isolectotype: AMES 23949! (*non* AMES 27529!, which is *E. summerhayesii* Hágsater; *non Epidendrum purpurascens* Focke.)

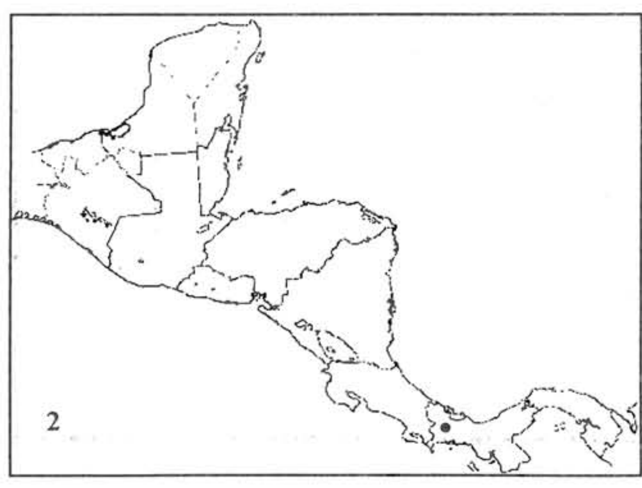
Hierba epífita, cespitosa, hasta 45 cm de alto o más. **Raíces** basales, carnosas, gruesas, 2-3 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos, rectos, 13-18 x 6-14 mm. **Hojas**, 2-3 (4), distribuidas en la mitad apical del tallo; vaina tubular, lateralmente comprimida, lisa, 3.5-5 cm de largo; lámina linear, ápice desigualmente bilobado, margen entero, subcoriácea, lisa, verde con los márgenes amoratados, (5) 9-18 x 1.9-3.2 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, dística, erecta, hasta 40 cm de largo; pedúnculo sin espata, con 2-5 brácteas semejantes a las florales pero no divergentes, casi paralelas al pedúnculo, algo imbricadas, conduplicadas, de 35-55 x 8-12 mm; raquis lateralmente comprimido, ancipitoso, no ornamentado, en zig-zag. **Brácteas florales** más largas que el ovario, verdes, densamente punteadas de morado-rojizo, ovadas, conduplicadas, ápice redondeado a someramente bilobado, 18-30 mm de largo, se desarrollan progresivamente, después de la antesis son divergentes y espaciadas (i.e., no imbricadas). **Flores** hasta 20, sucesivas, desarrollándose y abriendo una a la vez, verdes, los sépalos rayados de morado-rojizo en el envés, el labelo teñido de morado-rojizo en el envés; fragancia aparentemente ausente. **Ovario** grueso, terete, no ornamentado, 14-20 mm de largo. **Sépalos** entreabiertos a más o menos extendidos, libres, glabros, coriáceos, con quilla dorsal prominente y dentada en los laterales. **Sépalo dorsal** lanceolado, agudo, márgenes extendidos, 7-9-nervado, 18-20 x 5-6 mm. **Sépalos laterales** lanceolados, agudos, márgenes extendidos, 7-9-nervados, 16-19 x 6.5-8 mm. **Pétalos** apresados contra los sépalos laterales, lineares, agudos, márgenes extendidos, 1-nervados, 15-19 x 1 mm. **Labelo** unido a la columna, entero, obreniforme, ecalloso, con carina central gruesa y roma formando un mucrón apical grueso, base cordada, ápice truncado, algo emarginado, márgenes apicales erosos, 12-13 x 16-22 mm. **Columna** recta, gruesa, 7-9 mm de largo. **Clinandrio** obsoleto, la antera totalmente expuesta arriba, margen entero. **Antera** ovoide, truncada, con una quilla roma al frente, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, un poco más largas que los polinios; viscidio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/4 del largo de la cavidad estigmática. **Nectario** profundo, penetrando la mitad del ovario, liso interiormente. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stems** simple, reed-like, laterally compressed, straight. **Leaves** 2-3 (4), linear, coriaceous, apex bilobed, green with purple margins. **Inflorescence** terminal, from the mature stem, flowers only once, racemose, distichous, erect; rachis zigzag, laterally compressed, ancipitous. **Floral bracts** longer than the ovaries, conduplicate, apex rounded to bilobed, spaced apart (i.e., not imbricating), divergent, green, densely dotted with reddish-purple. **Flowers** up to 20, successive, developing and opening one at a time, green, the sepals with reddish-purple lines, the lip reddish-purple on the underside. **Ovary** thick, terete. **Sepals** lanceolate, acute, the lateral ones dorsally keeled, the apex of the keel dentate, 7-9-veined. **Petals** appressed against the lateral sepals, linear, acute, 1-veined. **Lip** united to the column, entire, obreniform, ecallose, with a thick central keel running down to the apex, base cordate, apex emarginate, shortly mucronate. **Column** straight. **Clinandrium** obsolete. **Anther** ovoid, truncate, 4-celled, with a low keel in front. **Pollinia** 4, obovoid, laterally compressed, subequal; caudicles soft and granulose, slightly longer than the pollinia; viscidium semiliquid, transparent. **Rostellum** slit. **Nectary** deep, penetrating half the ovary.

OTHER SPECIMENS: PANAMA: Chiriquí: Hágsater et al. 6525, AMO! (illustration voucher.) CR! SEL!

DISTRIBUTION AND ECOLOGY: Apparently endemic to Chiriquí, Panama. On trees in subdeciduous tropical forest at 1700-2300 m altitude. Flowering recorded from June to October but probably throughout the year.

RECOGNITION: Epidendrum allochronum belongs to the E. coriifolium Lindl. group and can be distinguished by the stems with 2-3 (4) coriaceous, strap-like leaves, inflorescence much longer than the uppermost leaf, divergent, long floral bracts narrowly rounded at the apex and finely and abundantly dotted with reddish-purple, successive flowers produced one at a time, and 1-veined petals appressed to the lateral sepals. Epidendrum coriifolium, from Guatemala and Mexico, has shorter, compact plants, the inflorescence about as long as the apical leaf and simultaneous flowers; E. fuscopurpureum Schltr. has semiterete, fleshy leaves; E. caluerorum Hágsater has narrow leaves, bracts subequal to the ovary in length, and the lip with two distinct calli; E. palmense Ames has acute bracts and many flowers open at the same time; E. subviolascens Schltr. has narrow leaves and acute bracts longer than the flowers; E. summerhayesii Hágsater has widely rounded, imbricating bracts; and E. behariorum Hágsater has elongate inflorescence with 3-5 flowers open at the same time and spreading, truncate bracts.



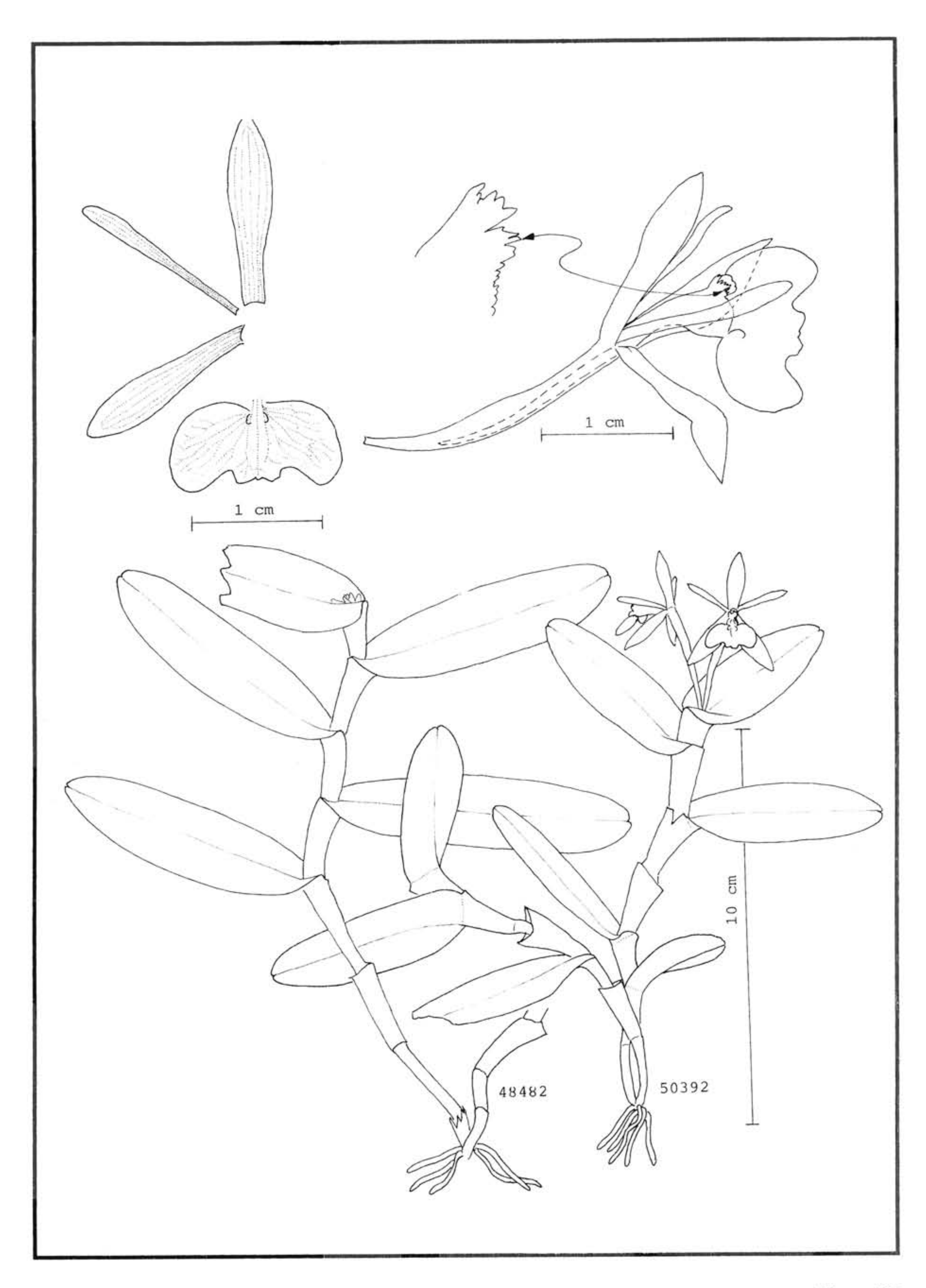
CONSERVATION STATUS: Unknown.

ETYMOLOGY: From the Greek allos, another, and chronos, time, in reference to the successive production of the flowers.

Author: E. Hágsater Illustrator: E. Hágsater Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM AMAPENSE Hágsater & L. Sánchez

Plate 105

Text on the reverse side

EPIDENDRUM AMAPENSE Hágsater *et* L. Sánchez, *sp. nov.*

Holotype: BRAZIL: [State Amapá]: Rio Araguari, between Cachoeiras, Travessao and Santa Maria, 1°9'N, 51°52'W, 20 Aug. 1961, *J. M. Pires, W. Rodrigues & G. C. Irvine 50392*, NY! (illustration voucher.)

Epidendro latilabro Lindl. simile, sed differt floribus parvis, labello 13-14 mm lato, lobo mediano transverse oblongo, emarginato, mucrone lato in sinu, columna parum arcuata, et clinandrio eroso-dentato.

Hierba epífita, cespitosa, 12-17 cm de alto. Raíces basales, 1 mm de grosor. **Tallos** sencillos, fuertemente comprimidos lateralmente, flexuosos, 6-13 cm de largo. **Hojas** 4-6, distribuidas en los dos tercios apicales del tallo; lámina angostamente elíptica a linear-elíptica, ápice bilobado, margen entero, extendido, coriácea, el dorso ligeramente carinado, uniformemente verde, 3.8-7.2 x 1.2-2 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, sésil. **Bráctea floral** mucho más corta que el ovario, delgada, amplexicaule, ovada, obtusa, 2.5-4.5 x 2-3 mm. **Flores** 1-2, simultáneas, resupinadas, verdes. **Ovario** inflado arriba de la mitad, terete, no ornamentado, 21-32 mm de largo. **Sépalos** carnosos, extendidos, oblanceolados, los laterales ligeramente oblicuos, ápice agudo, márgenes revolutos, con una quilla baja en el dorso, 5-nervados, con varias nervaduras secundarias, 14-17 x 3.4-4.5 mm. **Pétalos** membranáceos, extendidos, angostamente oblanceolados, obtusos, márgenes enteros, extendidos, 3-nervados, 13.5-14.5 x 1.5-2 mm. **Labelo** unido a la columna, trilobado, bicalloso, más ancho entre los lóbulos laterales, 6-7 x 13-14 mm; lóbulos laterales semiovados, obtusos, márgenes ligeramente erosos; lóbulo medio mucho más pequeño que los laterales, transversalmente oblongo, someramente emarginado, con un pequeño mucrón en el seno. **Columna** ligeramente arqueada, 10-10.5 mm de largo. **Clinandrio** prominente, irregular y profundamente eroso-dentado. **Antera** reniforme, 4-locular. **Polinios** 4, subglobosos; caudículas suaves y granulosas; viscidio viscoso, translúcido. **Rostelo** hendido. **Nectario** profundo, penetrando 2/3 del ovario. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stems** strongly laterally compressed, flexuous, simple. **Leaves** 4-6, narrowly elliptic to linear-elliptic, apex bilobed, slightly dorsally carinate, uniformly green. **Inflorescence** terminal, flowers only once, sessile. **Flowers** 1-2, simultaneous, resupinate, green. **Ovary** dilated on the apical half, terete, unornamented. **Sepals** fleshy, spreading, oblanceolate, laterals slightly oblique, acute, with a low dorsal keel, 5-veined with secondary venation. **Petals** membranaceous, spreading, narrowly oblanceolate, obtuse, margins entire, spreading, 3-veined. **Lip** united to the column, 3-lobed, bicallose; lateral lobes semiovate, margins slightly erose; midlobe much smaller than the laterals, transversely oblong, shallowly emarginate, with a minute mucro. **Column** slightly arcuate. **Clinandrium** prominent, irregularly deeply erose-dentate. **Anther** reniform, 4-celled. **Pollinia** 4, subglobose; caudicles soft and granulose; viscidium viscous, translucent. **Rostellum** slit. **Nectary** penetrating 2/3 of the ovary.

OTHER SPECIMENS: BRAZIL: Amapá: without collector, No. 50871, IAN! Irwin et al. 48497, HB! IAN! K! US! Westra 48513, HB, NY. Pará: da Silva 72, MG! FRENCH GUIANA: de Granville 400, P! Irwin et al. 48482,* NY! Schnell 11860, P!

DISTRIBUTION AND ECOLOGY: Northern Brazil and French Guiana. On trees along rivers. Flowering probably thoughout the year.

RECOGNITION: Epidendrum amapense is a member of the E. difforme Jacq. complex, and can be distinguished by the small plants, the strongly compressed stems, the narrow elliptic to linear-elliptic leaves, the relatively small flowers, the lip 13-14 mm wide, with large lateral lobes, a much smaller, emarginate midlobe which does not surpass the lateral lobes, and the clinandrium deeply erose-dentate. Most of the other species of this group in the Guianas and Brazil have much larger flowers, the lips 20-40 mm wide.



*NOTE: The data sheet of this specimen indicates Brazil, but the locality, Yaroupi river, is a French Guianan tributary of the Oiapoque river, the natural border between the State Amapá, Brazil, and French Guiana.

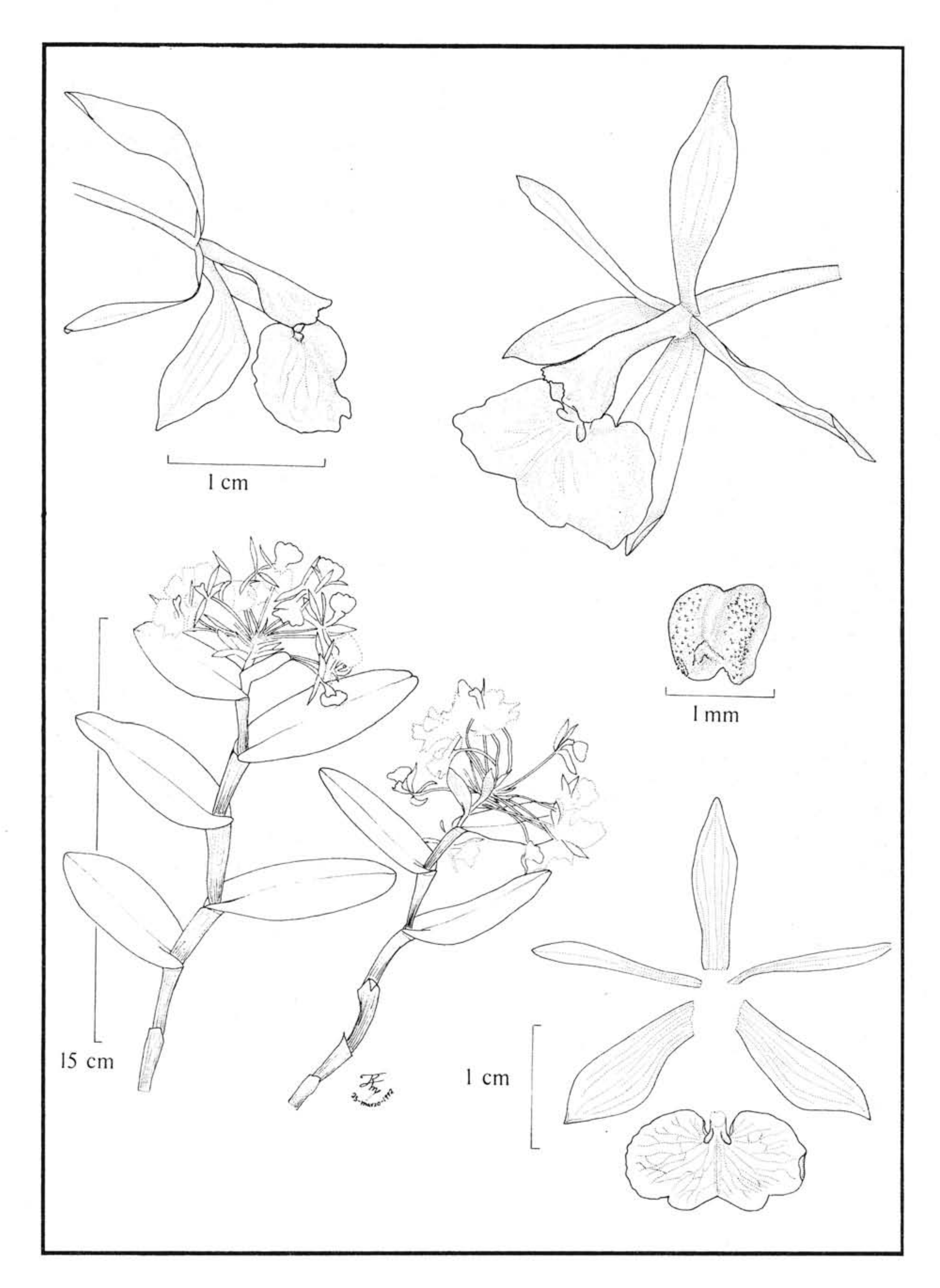
CONSERVATION STATUS: Undetermined.

ETYMOLOGY: This species is named for the Brazilian state of Amapá, where the type was collected.

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EPIDENDRUM ANASTASIOI Hágsater

Text on the reverse side

EPIDENDRUM ANASTASIOI Hágsater, *sp. nov.*

Holotype: COSTA RICA: [Cartago:] East Turrialba, alt. 1200 m, 1 Oct. 1924, *A. Alfaro s.n.*, US (1207271)! (illustration voucher). Isotypes: AMES (29086)! US (1207281)!

Epidendro chlorocorymbi Schltr. simile, sed differt caulibus aliquantum lateraliter compressis, labello callis elongatis, rotundatis, lobis lateralibus semiovatis, margine sinuato, apice sino lato duos lobos semiorbiculares formanti, et columna graciliore.

Hierba epífita, cespitosa, 15-25 cm de alto. **Raíces** basales, carnosas, 1-2 mm de grosor. **Tallo** sencillo, tipo caña, algo comprimido lateralmente, ligeramente en zig-zag, 13-18 cm de alto. **Hojas** 5-9, equidistantes a lo largo del tallo; vaina lateralmente comprimida, lisa; lámina subcoriácea, elíptica, ápice asimétricamente bilobado, margen entero, lisa, verde, 4.5-7 x 1.5-2.8 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, subumbelada, pedunculada. **Bráctea floral** mucho más corta que el ovario, 6-13 mm de largo. **Flores** 15-22, simultáneas, resupinadas, verdes. **Ovario** no inflado, terete, no ornamentado, 21-28 mm de largo. **Sépalos** subcoriáceos, extendidos, libres, glabros. **Sépalo dorsal** elíptico, agudo, márgenes enteros, revolutos, 5-nervado con 4 nervios subsidiarios intermedios, 13-16 x 4-4.5 mm. **Sépalos laterales** oblicuamente elípticos, ligeramente falcados, agudos, márgenes enteros, revolutos, 5-nervados con 2 nervios subsidiarios a los lados del nervio medio, 13-16 x 4.5-5 mm. **Pétalos** membranáceos, oblanceolados, agudos, márgenes enteros, extendidos, 3-nervados, 13-15 x 1.3-1.8 mm. **Labelo** unido a la columna, trilobado, 8-9 x 14-17 mm, con una carina central muy baja, bicalloso, los callos angostos, redondeados; lóbulos laterales semiovados, margen sinuado; lóbulo medio con un seno muy amplio, formando dos lóbulos semiorbiculares poco prominentes. **Columna** recta, 9 mm de largo. **Clinandrio** corto, entero, irregularmente dentado. **Antera** subesférica, esparcidamente papilosa, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas; viscidio viscoso, translúcido. **Rostelo** apical, hendido. **Nectario** profundo, penetrando un tercio del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose **herb**. **Stem** simple, reed-like, somewhat laterally compressed, slightly zigzag. **Leaves** 5-9, elliptic, apex unequally bilobed. **Inflorescence** terminal, from the mature stem, flowers only once, subumbellate, pedunculate. **Flowers** 15-22, resupinate, simultaneous, green. **Sepals** subcoriaceous, glabrous, free. **Dorsal sepal** elliptic, acute, margins entire, revolute, 5-veined, with 4 subsidiary veins. **Lateral sepals** obliquely elliptic, acute, slightly falcate, margins entire, revolute, 5-veined, with 2 subsidiary veins. **Petals** membranaceous, oblanceolate, acute, margins entire, spreading, 3-veined. **Lip** united to the column, 3-lobed, bicallose, the calli narrow, rounded; lateral lobes semiovate, margins sinuate; midlobe with a very wide apical sinus, forming two semiorbicular, slightly protruding lobules. **Column** straight. **Clinandrium** short, entire, unequally dentate. **Anther** subspherical, sparsely papillose, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent. **Rostellum** apical, slit. **Nectary** deep, penetrating 1/3 of the ovary.

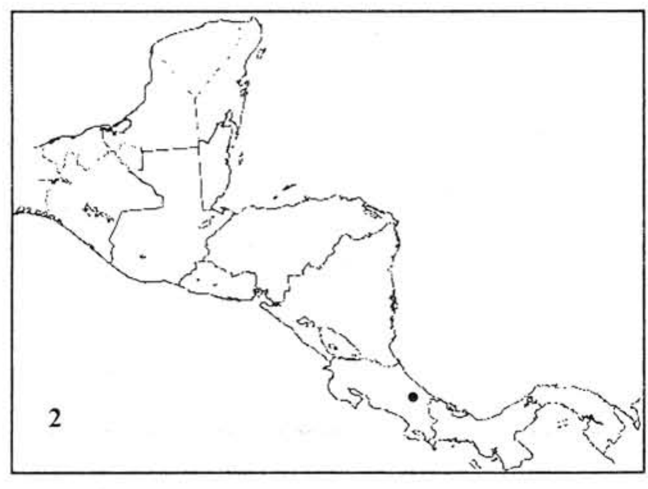
OTHER SPECIMENS: COSTA RICA: [Cartago:] Alfaro s.n. (3 Oct. 1924), US! Alfaro s.n. (14 Dec. 1924), AMES! US!

DISTRIBUTION AND ECOLOGY: Apparently endemic to Costa Rica. Epiphyte at 1200 m altitude. Flowering from October to December.

RECOGNITION: This species is a member of the E. difforme Jacq. complex, and can be recognized by the somewhat laterally compressed stems, 3-lobed, bicallose lip with narrow, rounded calli, lateral lobes semiovate with sinuate margins, midlobe with a very wide sinus forming two somewhat prominent, semiorbicular lobules, and clinandrium short, irregularly dentate. It is similar to E. chlorocorymbos Schltr., which has larger plants with terete stems, subglobose calli, and 3-lobed lip with semiorbicular lateral lobes, the midlobe with a narrow apical sinus forming two prominent lobules.

CONSERVATION STATUS: Undetermined. The scarcity of herbarium material is noticeable.

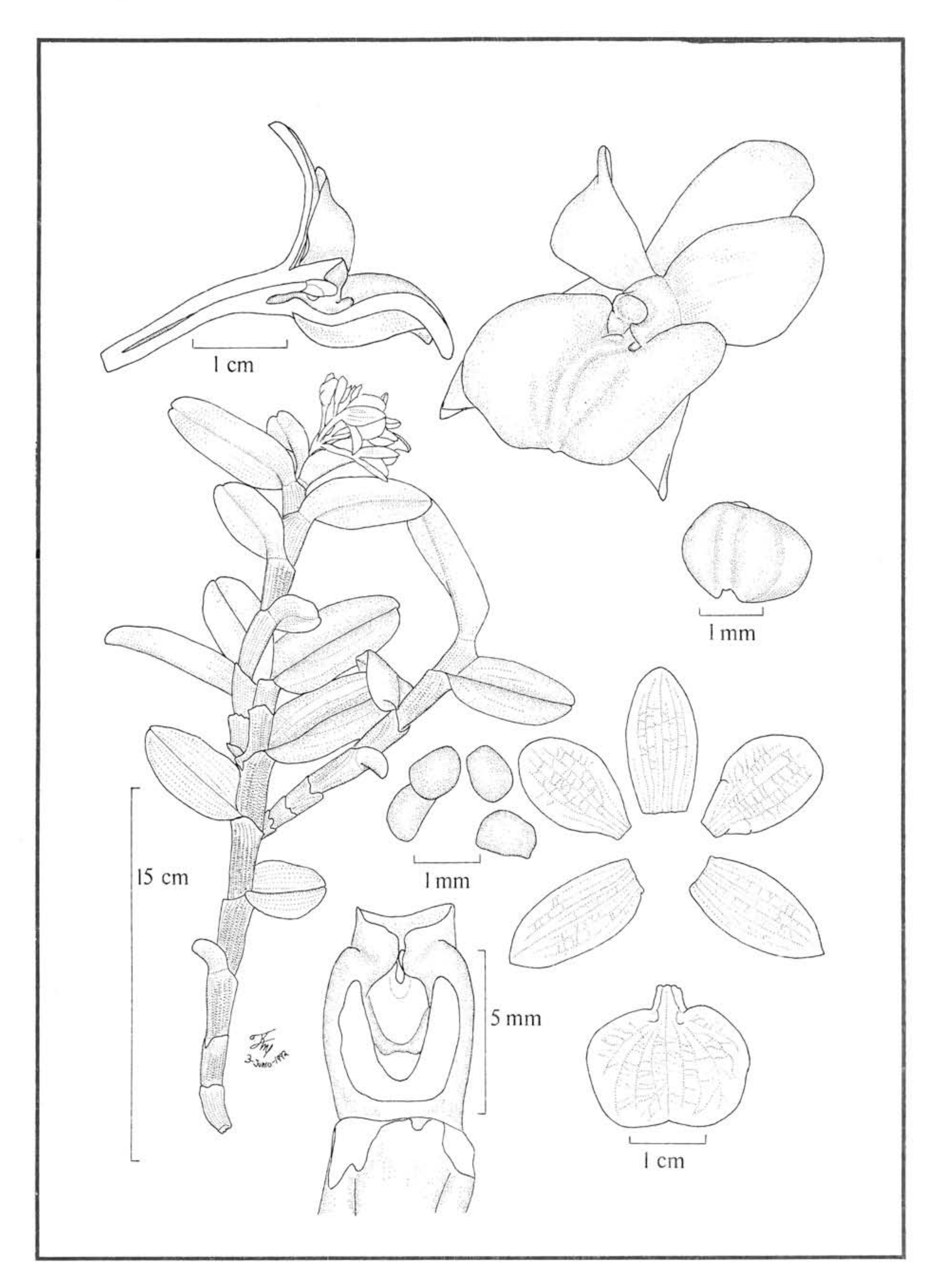
ETYMOLOGY: Dedicated to Anastasio Alfaro, who collected all the specimens of this species known to us.



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EPIDENDRUM ANDERSSONII Hágsater & Dodson

Text on the reverse side

Plate 107

EPIDENDRUM ANDERSSONII Hágsater *et* Dodson, *nom. et stat. nov.*

Based on: *Epidendrum inamoenum* Kraenzl. var. *robustum* C. Schweinf., Bot. Mus. Leafl. 16(1): 11. 1953. Holotype: PERU: Cuzco, Prov. Urubamba, km 97-108 FCCSA, 2200 m, 16 May 1943, *C. Vargas 3408*, AMES! (*non Epidendrum robustum* Cogn.)

Hierba terrestre o litófita, erecta, ramificada arriba en plantas maduras, hasta 2 m de alto. **Raíces** carnosas. **Tallo** erecto, hasta 2 m de alto, ca. 10 mm de grosor, ramificado arriba, ramas cortas, 9-18 x 0.6-1 cm. **Hojas** numerosas, distribuidas a lo largo de los tallos, las hojas del tallo principal caedizas, ausentes cuando florecen las ramas; vaina tubular, rugosa, las del tallo principal 23-30 mm de largo, las de las ramas 10-30 mm de largo; lámina elíptica, ápice desigualmente bilobado, subcoriácea, margen entero, las de las ramas 30-70 x 16-28 mm, las del tallo principal probablemente mayores. **Inflorescencia** terminal en las ramas, florece una sola vez, 4-6 cm de largo, suberecta, racemosa, sin espata. **Brácteas florales** obsoletas, triangulares, acuminadas, mucho más cortas que los ovarios, 1 mm de largo. **Flores** 6-12, simultáneas, abriendo de la base de la inflorescencia hacia el ápice, resupinadas, de color verde. **Ovario** grueso, ligeramente dilatado en el ápice, 12-16 mm de largo. **Sépalo dorsal** elíptico, redondeado-obtuso, carnoso, 7-nervado, los nervios laterales bifurcados en la base, 18-20 x 9-10 mm. **Sépalos laterales** elípticos, obtusos, carnosos, 7-nervados, los nervios laterales bifurcados en la base, 20-21 x 9-10 mm. **Pétalos** obovado-suborbiculares, redondeados, margen entero, 5-nervados, 18 x 10-11 mm. **Labelo** unido a la columna, bilobado, subreniforme, bicalloso, los callos basales, muy pequeños, base ligeramente cordada, ápice emarginado, lóbulos semiorbiculares, margen entero, 16 x 22 mm. **Columna** recta, gruesa, 7-8 mm de largo. **Clinandrio** corto, ligeramente sobresaliendo en el ápice de la columna, margen entero. **Antera** subesférica, 4-locular. **Polinios** 4, subobovoides, lateralmente comprimidos, caudículas aparentemente muy cortas. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** prominentes, de 1/3 del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando 1/8 del ovario, no ornamentado, algo inflado. **Cápsula** no vista.

Terrestrial or lithophytic, erect herb up to 2 m tall. Stem branching near the apex, branches short. **Leaves** distributed throughout the stem; sheaths rugose; blades elliptic, apex unequally bilobed, margin entire, subcoriaceous. **Inflorescence** terminal, from the branches, flowers only once, racemose, suberect, 4-6 cm long, without spathe. **Bracts** obsolete, triangular, acuminate, much shorter than the ovary. **Flowers** 6-12, simultaneous, resupinate, green. **Ovary** thick, somewhat dilated at the apex. **Dorsal sepal** elliptic, rounded-obtuse, fleshy, 7-veined, the lateral nerves bifurcate at the base. **Lateral sepals** elliptic, obtuse, 7-veined, the lateral nerves bifurcate at the base. **Petals** obovate-suborbicular, rounded, margins entire, 5-veined. **Lip** bilobed, subobreniform, bicallose, calli basal, small, base slightly cordate, apex emarginate, the lobes semiorbicular, margin entire. **Column** straight, thick. **Clinandrium** slightly prominent, margin entire. **Anther** subspherical, 4-celled. **Pollinia** 4, subobovoid, laterally compressed; caudicles apparently short. **Rostellum** subapical, slit. **Nectary** penetrating about 1/8 of the ovary, unornamented, somewhat inflated.

OTHER SPECIMENS: BOLIVIA: **Cochabamba:** Casas 8004, NY! Luer et al. 5815, SEL! Steinbach 626, AMES! NY! U! US! WIS! Vázquez 246, SEL! **La Paz:** Cárdenas 3623, AMES! Luer et al. 5001, SEL! Solomon 7298, SEL! COLOMBIA: **Putumayo:** Ospina-Hernández & Idrobo 106, AMES! ECUADOR: **Azuay:** Camp E-4805, AMES! S! **Carchi:** Asplund 16840, AMES! NY! Harling et al. 15015, AMES! GB! **Morona-Santiago:** Besse 767, SEL! Hágsater & Dodson 10140, AMO! **Napo:** Croat 58754, MO! Dodson 14038, SEL! 16426, MO! QCNE! SEL! 17070, MO! QCNE! Dodson et al. 14286, MO! 14867, MO! QCNE! 15933, MO! Dodson & Hirtz 15914, AMES! QCA! QCNE! RPSC! (illustration voucher.) Harling & Andersson 16301, AMES! GB! Hirtz 898, SEL! 1775, MO! Holm-Nielsen 6855, AAU! AMES! 16206, AAU! QCA! Luer et al. 6999, SEL! PERU: **Amazonas:** Wurdack 1445, US! **Cuzco:** Vargas 5551, AMES! **Huánuco:** Davidson & Jones 9179, ENCB! NY! US! Gentry & Smith 44846, US! **Pasco:** Gentry & Smith 35979, SEL!

DISTRIBUTION AND ECOLOGY: Known from the eastern slope of the Eastern Cordillera of the Andes in Colombia, Ecuador, Peru and Bolivia. Terrestrial or lithophyte, in wet forests or growing on embankments, from 1500 to 3300 m altitude. Flowering from February to October.

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CONSERVATION STATUS: Probably not threatened, as the species seems to be rather widespread and grows in disturbed areas.

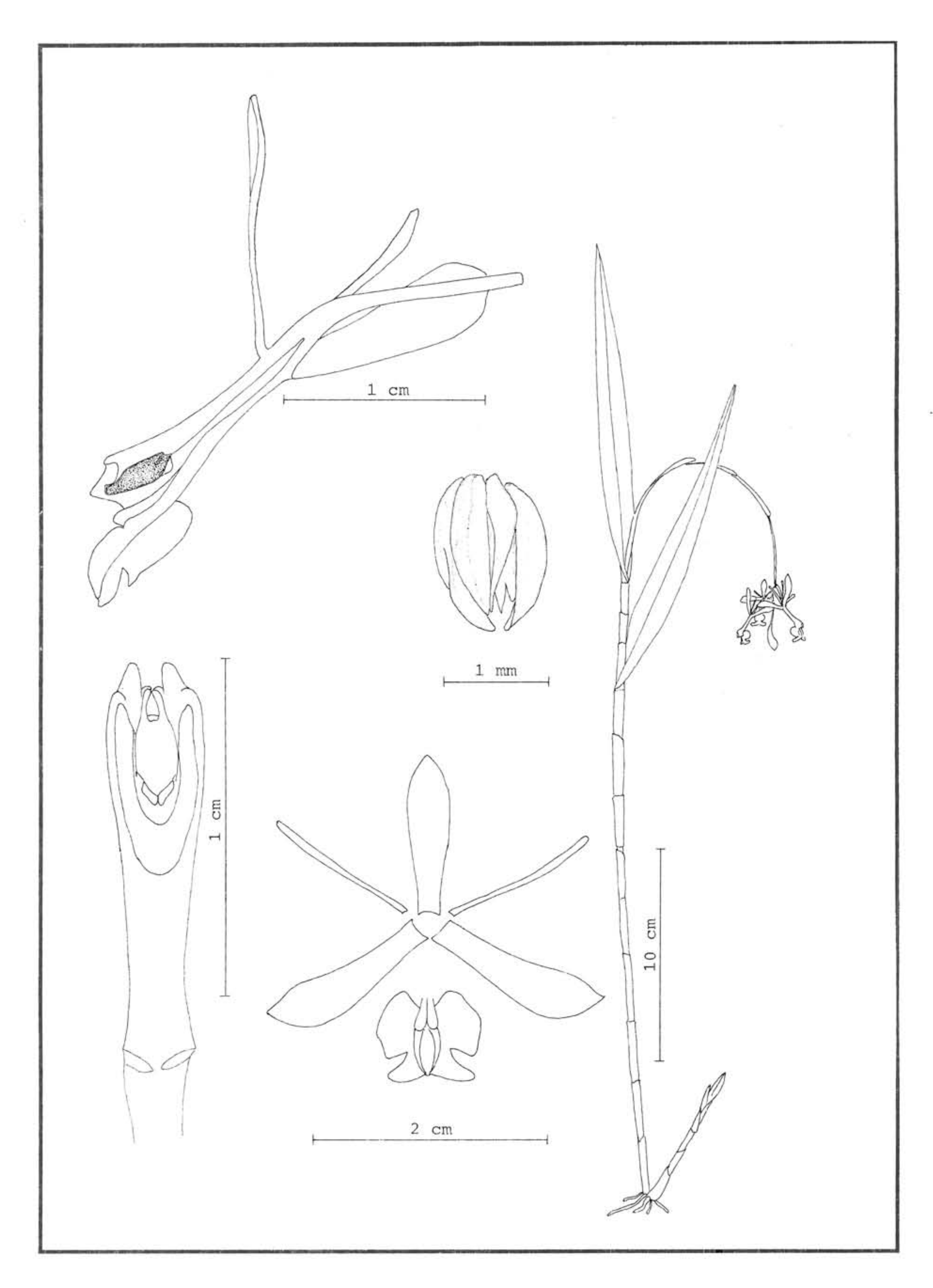
RECOGNITION: Epidendrum anderssonii belongs to the E. renilabium Schltr. species group, which is characterized by the erect, reed-like stems with subapical branching, racemose inflorescence, compact, fleshy flowers, bilobed lip and leaves elliptic and unequally bilobed at the apex. Epidendrum renilabium is very similar and grows on the western slope of the Western Andes, being clearly distinguishable by the flowers opening from the apex of the raceme first (a relatively unusual character also found in Epidendrum opiranthizon Hágsater & Dodson, an unrelated species), while in E. anderssonii the flowers open as in most species, from the base of the inflorescence to the apex.

ETYMOLOGY: This species is named after Dr. Lennart Andersson, co-editor of the Flora of Ecuador, who has collected extensively in Ecuador and participated in the collection of this taxon.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez **Editors: E. Hágsater & G. A. Salazar**

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EPIDENDRUM ANTONENSE Hágsater

Text on the reverse side

Plate 108

EPIDENDRUM ANTONENSE Hágsater, *sp. nov.*

Holotype: PANAMA: Colón: Near Río Guanche, 10 Aug. 1971, *R. L. Dressler 4071*, AMO!

Epidendro turialvae Rchb. f. simile, sed floribus minoribus, carnosis, sepalis petalisque olivaceis, labello atropurpureo.

Hierba epífita, cespitosa, 40-60 cm de alto. **Raíces** basales, carnosas, 1-1.5 mm de grosor. **Tallos** erectos, rectos, tipo caña, lateralmente comprimidos, ancipitosos, cubiertos en la base por vainas tubulares papiráceas, 30-40 x 0.15-0.45 cm. **Hojas** numerosas, distribuidas a lo largo de los dos tercios apicales del tallo; vaina tubular, ancipitosa, hasta 3.5 x 0.7 cm; lámina angostamente elíptico-lanceolada, acuminada, graminoide, púrpura, 8-19 x 0.7-1.9 cm. **Inflorescencia** terminal, del tallo maduro, florece durante varios años del mismo racimo; pedúnculo alargado, ancipitoso en la base, arqueado, parcialmente cubierto por brácteas, la basal frecuentemente parece una espata tubular, ancipitosa, aguda, 5-8 cm de largo, las demás progresivamente más pequeñas, conduplicadas, agudas; racimo terminal, corto, subcorimboso. **Bráctea floral** triangular, muy pequeña, 1-4 mm de largo. **Flores** 3-4, simultáneas, fragancia no registrada, sépalos y pétalos verde olivo, labelo púrpura, columna púrpura (también ha sido reportada en ocasiones como blanca). **Ovario** delgado, 12-24 mm de largo. **Sépalos** oblanceolados, agudos, carnosos, reflexos, 5-nervados, los laterales algo oblicuos, 9.5-12.5 x 2.5 mm. **Pétalos** filiformes, reflexos, 1-nervados, 9-12 x 0.2 mm. **Labelo** unido a la columna, 4-lobado, carnoso, bicalloso, con tres quillas romas, carnosas, que recorren todo el disco hasta el seno apical, 7-8 x 5-6 mm; lóbulos laterales dolabriformes, margen entero; lóbulos apicales divaricados, pequeños, angostos. **Columna** recta, delgada, terminada en una prominencia triangular (en ángulo recto) a cada lado del ápice, 12 mm de largo. **Clinandrio** obsoleto. **Antera** ovoide, 4-locular. **Polinios** 4, tipo "ala de pájaro", translúcidos, fuertemente comprimidos lateralmente, los interiores algo más pequeños; caudículas dos pares, laminares, algo más cortas que los polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/4 de largo de la cavidad estigmática. **Nectario** corto, apenas penetrando hasta la base del perianto. **Cápsula** elipsoide, 23-25 x 10 mm, con pedicelo delgado de 10-12 mm de largo y pico grueso y corto, ca. 6 mm de largo.

Epiphytic, caespitose herb. **Stems** straight, reed-like, ancipitous. **Leaves** elliptic-lanceolate, acuminate, grass-like, purple. **Inflorescence** terminal, flowering during several years from the same raceme; peduncle elongate, arcuate; raceme terminal, short, subcorymbose. **Flowers** simultaneous, resupinate; sepals and petals olive green, lip deep purple, column purple (it has also been reported as white). **Sepals** reflexed, oblanceolate, acute, fleshy, 5-veined. **Petals** filiform, reflexed, 1-veined. **Lip** united to the column, 4-lobed, bicallose, 3-keeled, keels running down to the apical sinus; lateral lobes dolabriform, margin entire; apical lobes divaricate, small, narrow. **Column** straight, slender. **Clinandrium** obsolete. **Anther** ovoid, 4-celled. **Pollinia** 4, "bird-wing" type, strongly laterally compressed, transparent, the inside pair somewhat smaller; caudicles laminar, somewhat shorter than the pollinia; viscidium semiliquid, transparent. **Rostellum** apical, slit. **Nectary** shallow, penetrating only to the base of the perianth. **Capsule** ellipsoid, with a slender pedicel and a short apical beak.

OTHER SPECIMENS: PANAMA: Chiriquí: Dressler 5492, AMO! Folsom et al. 5534, MO! **Coclé:** Churchill 4035, MO! Folsom 5923, AMO! Dressler sub Hágsater 6404 (fls. in FAA), AMO! (illustration voucher.) Hamilton & Davidse 2825, MO! **Colón:** Antonio 3761, AMO! Gentry 8781, MO! Knapp et al. 4467, AMO! **Panamá:** Dressler 4883, AMO! Folsom et al. 5068, MO! **Canal Zone:** Steyermark & Allen 17109, AMES! BM!

DISTRIBUTION AND ECOLOGY: Central and western Panama, on both sides of the Continental Divide. Epiphyte, in wet tropical forest from 70 to 800 m altitude. Butterfly visitation to the flowers has been recorded (Folsom 5923).

RECOGNITION: Epidendrum antonensis belongs to the E. paniculatum Ruiz & Pav. group and the E. turialvae Rchb. f. complex. It resembles vegetatively E. turialvae, with similar long, narrow, acuminate leaves, and elongate, racemose, subcorymbose, few-flowered inflorescence, but the flowers are smaller, the lip 7-8 mm long, and the plants appear to be somewhat smaller too. It is easily recognized by the deep olive green sepals and petals and the deep purple, fleshy lip which makes it one of the darkest-flowered species in the genus. It is also related to E. rodrigoi Hágsater, which has a light pink, somewhat hyaline lip and is found in Colombia.

CONSERVATION STATUS: Probably not threatened. The species is apparently widespread in Panama, and since a number of areas where it has been found are located above hydroelectric dams, it is expected that the vegetation will be conserved. There is no collecting pressure.

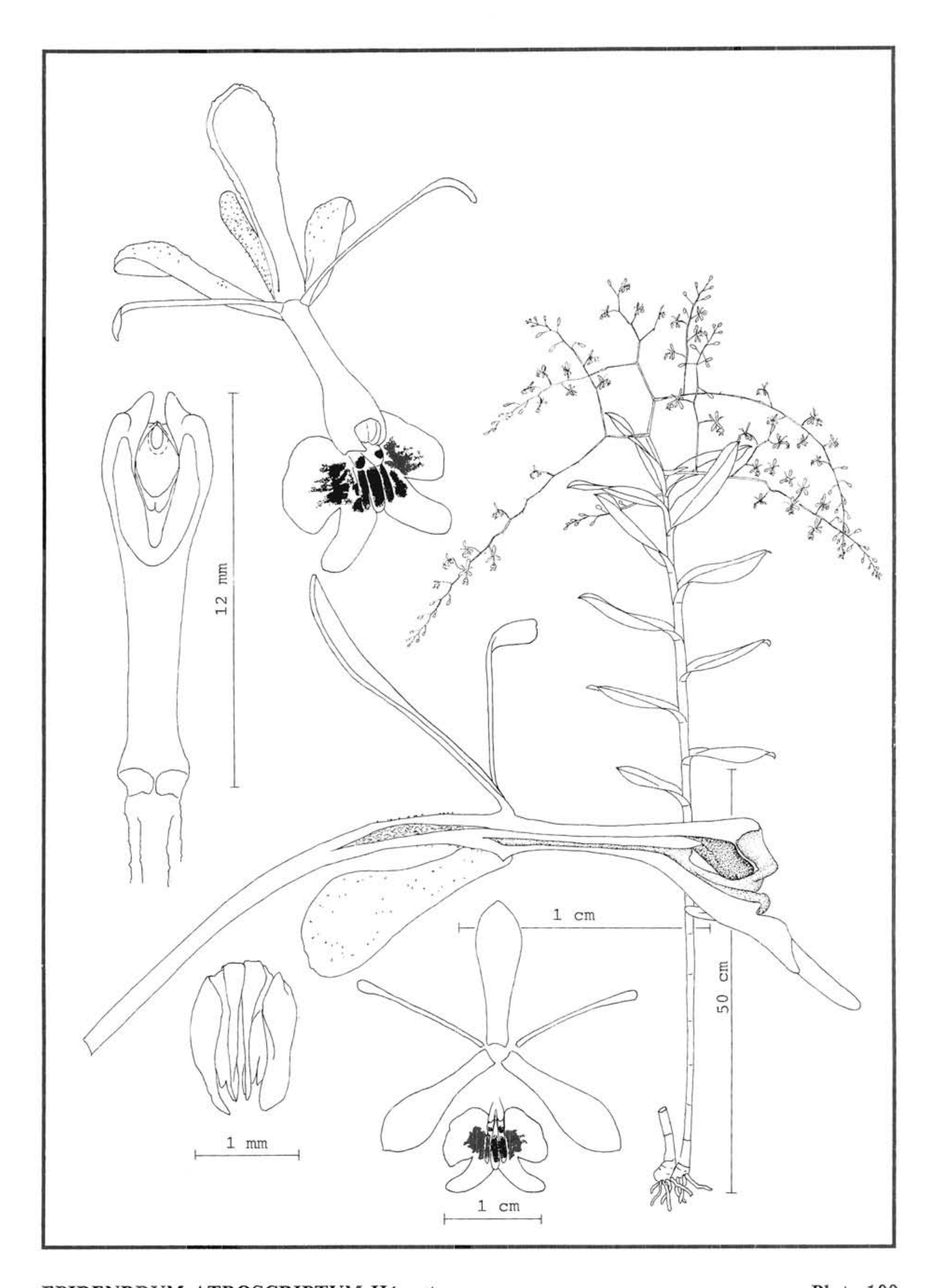


ETYMOLOGY: The epithet is in reference to El Valle de Antón, near where the speciest was first seen by the author together with Dr. Robert L. Dressler. The local market of El Valle is known for the variety of orchid species which were formerly sold there.

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EPIDENDRUM ATROSCRIPTUM Hágsater

Text on the reverse side

Plate 109

EPIDENDRUM ATROSCRIPTUM Hágsater, sp. nov.

Holotype: MEXICO: Chiapas: Entre Palenque y Agua Azul, preparado de material cultivado, 23 agosto 1982, *R. Triay sub Hágsater 5727*, AMO! (illustration voucher.) Clonotypes: 23 junio 1931, AMO! XAL! 1 agosto 1981, K! US! 7 agosto 1983, MO!

Epidendro veroscripto Hágsater simile, sed differt floribus successivis, centro labelli macula densa atropurpurea.

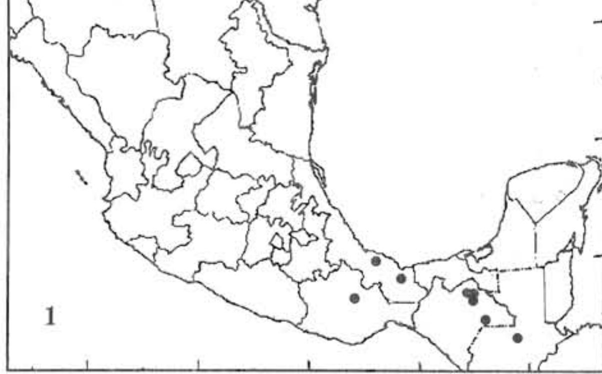
Hierba epífita o litófita, cespitosa, 30-90 cm de alto. **Raíces** basales, carnosas, ca. 2.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, muy ligeramente engrosados en el tercio apical, 30-90 cm de largo, 4-9 mm de grosor cerca del ápice. **Hojas** 7-14, distribuidas en la mitad apical del tallo; vaina tubular, lisa, hasta 5 cm de largo; lámina elíptica, aguda, margen entero, lisa, verde, 6-12 x 2.2-4.4 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, paniculada, arqueada, 22-50 cm de largo; pedúnculo ligeramente comprimido, sin espata, generalmente con dos brácteas basales (raramente ausentes), acuminadas, hasta 8 cm de largo. **Bráctea floral** de más corta a más larga que el ovario, triangular, acuminada, 2-19 mm de largo. **Flores** (12) 25-120, sucesivas, resupinadas, sin fragancia apreciable, abriendo de la base hacia el ápice de la inflorescencia, con botones apicales pequeños cuando las flores basales abren; sépalos, pétalos y mitad basal de la columna verde amarillento, mitad apical de la columna y labelo blancos, el disco con una densa mancha púrpura oscuro. **Ovario** no inflado, terete, finamente ornamentado, escasamente furfuráceo, 14-30 mm de largo. **Sépalos** reflexos, libres, sin quilla dorsal, fina y escasamente furfuráceos exteriormente, carnosos, angostamente espatulado-oblanceolados, obtusos, márgenes extendidos, 3-nervados, con 4 nervios secundarios, 12-18 x 3-5 mm. **Pétalos** reflexos a extendidos, membranáceos, angostamente lineares a filiformes, ápice dilatado, redondeado, márgenes extendidos, uninervados, 11-16 x ca. 0.8 mm (ancho cerca del ápice). **Labelo** unido a la columna, 4-lobado, bicalloso, con 3 carinas prominentes, romas, la central llegando hasta el seno apical, en ocasiones con otras mas pequeñas a los lados, cordado en la base, 7-9 x 9-14 mm (ancho entre los lóbulos apicales); lóbulos basales semicirculares, márgenes irregulares; lóbulos apicales sublinear-falcados, divaricados. **Columna** recta, delgada, 10-15 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** subesférica, 4-locular. **Polinios** 4, tipo "ala de pájaro", fuertemente comprimidos lateralmente, los interiores algo menores, transparentes; caudículas suaves y lisas, ligeramente más cortas que los polinios; viscidio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** prominentes, de alrededor de la mitad del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando solo hasta la base del perianto, liso interiormente. **Cápsula** no vista.

Epiphytic or lithophytic, caespitose herb. **Stems** straight, reed-like. **Leaves** elliptic, acute. **Inflorescence** terminal, flowers only once, paniculate, arcuate. **Flowers** successive, the basal ones open when the apical buds are barely developing, resupinate; sepals, petals and base of column green, apex of column and lip white, disc heavily marked with deep purple. **Sepals** reflexed, narrowly spatulate-oblanceolate, obtuse, fleshy, sparsely furfuraceous on the outer surface, 3-veined. **Petals** narrowly linear to filiform, dilated near the rounded apex, 1-veined. **Lip** united to the column, 4-lobed, bicallose, 3-keeled, central keel running down to the emarginate apex, sometimes with smaller keels at each side; basal lobes semiorbicular, margin irregular; apical lobes sublinear-falcate, divaricate. **Column** straight, slender. **Clinandrium** obsolete, margin entire. **Anther** subspherical, 4-celled. **Pollinia** 4, "bird-wing" type, strongly laterally compressed, transparent, the inside pair somewhat smaller; caudicles soft and smooth, somewhat shorter than the pollinia; viscidium semiliquid, transparent. **Rostellum** subapical, slit. **Lateral stigma lobes** about half the length of the stigmatic cavity. **Nectary** shallow, penetrating only to the base of the perianth.

OTHER SPECIMENS: GUATEMALA: Alta Verapaz: Johnson 269, AMES! **MEXICO: Chiapas:** McCullogh & Greenwood sub Hágsater 5572, AMO! Thurston [1485] sub Hágsater 5028, AMO(x2)! ENCB! K! Thurston [1485] sub Hágsater 5029, AMES! AMO! BR! Oaxaca: Suárez sub Hágsater 5228, AMO! Veracruz: Beaman 6099, MEXU(x2)! Dressler sub Hágsater 6193, AMO! MEXU! US! XAL! Salazar et al. 2344, AMO! Valdivia 313, XAL! Vázquez & Hernández 3, XAL! Vovides et al. AV-562, XAL!

DISTRIBUTION AND ECOLOGY: Mexico (southern Veracruz and northern Oaxaca and Chiapas) and Guatemala (Alta Verapaz). Epiphyte, in tropical rain forest, from 200 to 900 m altitude. Flowering mainly from June to September.

RECOGNITION: Epidendrum atroscriptum belongs to the green-flowered E. paniculatum Ruiz & Pav. group, but can be easily recognized by the relatively large flowers which open successively, the basal flowers open when the apical buds are just developing, and the dense, deep purple blotch covering the disc of the lip. E. veroscriptum Hágsater has simultaneous flowers and the disc usually has a ring of purple spots around the center, or can be either immaculate or have sparse dots. In E. roseoscriptum Hágsater the flowers are simultaneous, the apical lobes are poorly developed and the disc bears a solid pink-violet blotch, not made up of small dots.

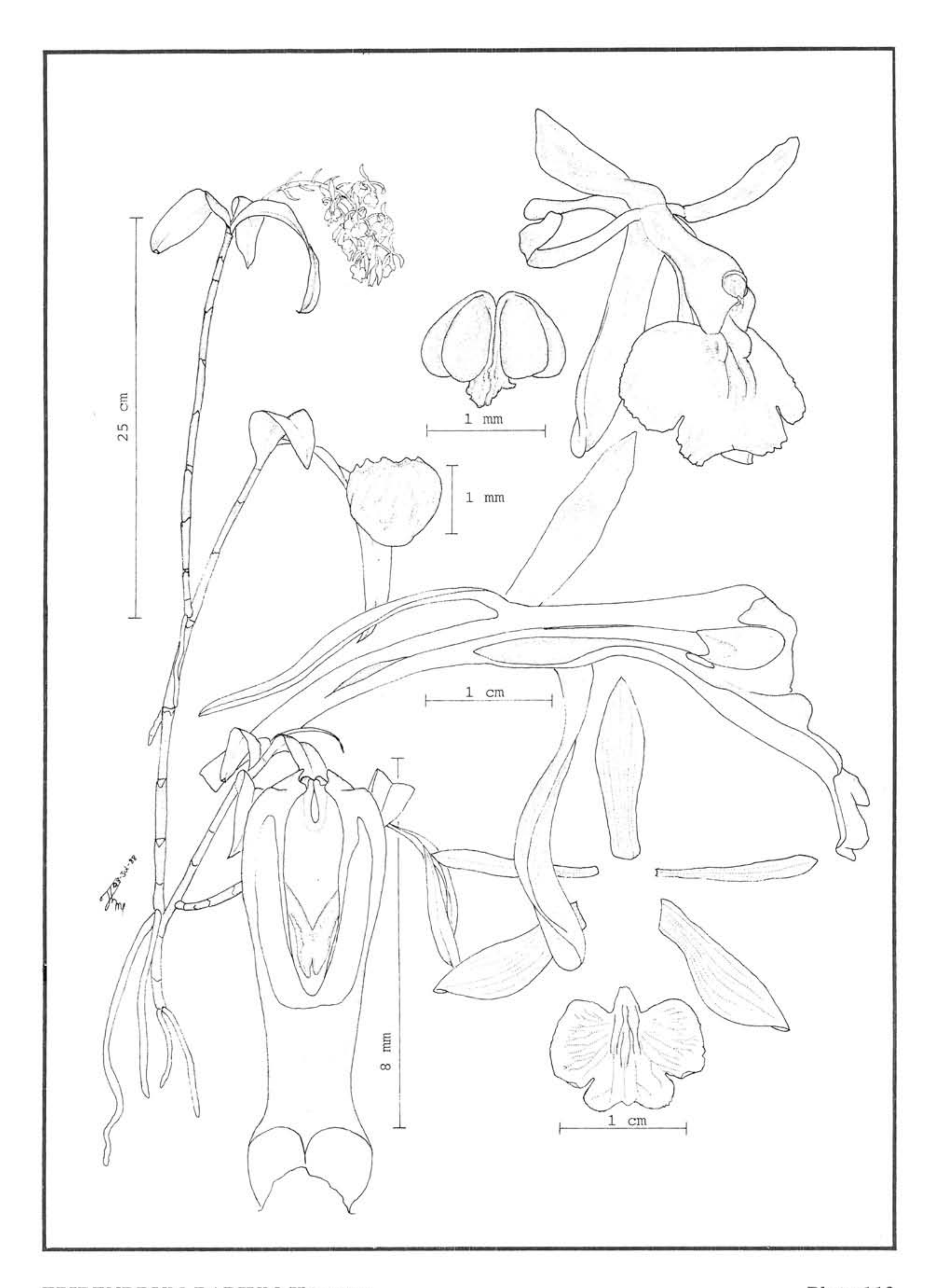


CONSERVATION STATUS: Not threatened. This species is relatively widespread, and although the areas where it grows have been much disturbed, the habitat is unlikely to disappear completely. There is little collecting pressure.

ETYMOLOGY: Atroscriptum, from the Greek atros, dark, and scriptum, written, refers to the dark dot pattern on the disk of the lip, and is related to the better known and more widespread species in Mexico, E. veroscriptum Hágsater (=E. scriptum A. Rich. & Gal., non L.) to which it is closely related.

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EPIDENDRUM BADIUM Hágsater

Text on the reverse side

Plate 110

EPIDENDRUM BADIUM Hágsater, *sp. nov.*

Holotype: GUATEMALA: Baja Verapaz: Mpio. Purulhá, posiblemente del Caserío Las Anonas, 1600-1750 m, cultivada en Cobán, recibida en marzo 1988, prensada 3 septiembre 1988, *O. Mittelstaedt sub E. Hágsater 9553*, AMO! (illustration voucher.) Clonotypes: 22 febrero 1991, K! 31 marzo 1991, AMES! 21 junio 1992, SEL! 11 abril 1993, UVAL! 6 julio 1993, MO!

Epidendro arbusculae Lindl. simile, sed floribus successivis, ovario breviore, sepalis petalisque badiis, labello eburneo.

Hierba epífita, de simpodio erecto donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, ca. 80 cm de alto. **Raíces** producidas tanto de la base de la planta como de la base de los tallos superiores, carnosas, gruesas, 2-3.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 13-22 x 0.3-0.5 cm, cubiertos por vainas tubulares, papiráceas. **Hojas** 2-3, agrupada cerca del ápice de cada tallo; vaina tubular, lisa, hasta 3.5 cm de largo; lámina elíptica, ápice oscuramente bilobado, margen entero, subcoriácea, lisa, verde, 2-13 x 1-3 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, arqueada, 10-15 cm de largo; pedúnculo lateralmente comprimido, arqueado, no ornamentado, sin espata, con 1-2 brácteas conduplicadas cerca de la base que no lo cubren, de 18-22 mm de largo. **Bráctea floral** de un poco más de la mitad del largo del ovario, triangular, acuminada, 9-15 mm de largo. **Flores** 12-16, sucesivas, resupinadas, sin fragancia aparente, 6-8 flores frescas y varias marchitas, así como muchos botones en desarrollo, al mismo tiempo en la misma inflorescencia; sépalos y pétalos pardo pálido a pardo rojizo, base del la columna verde, apice de la columna y labelo color marfil a ligeramente amarillento. **Ovario** no inflado, terete, no ornamentado, 14-25 mm de largo. **Sépalos** libres, con una quilla dorsal conspicua en los laterales, dándole al botón floral un ápice bidentado, glabros, carnosos. **Sépalo dorsal** reflexo, angostamente elíptico-oblanceolado, agudo, márgenes extendidos, 5-nervado, con un nervio secundario a cada lado del nervio central, 13-16 x 4-5 mm. **Sépalos laterales** extendidos, angostamente elíptico-oblanceolados, agudos, oblicuos, márgenes extendidos, 6-nervados, con un nervio secundario a cada lado del nervio central, 14-17 x 4-5.5 mm. **Pétalos** extendidos, angostamente oblanceolados, agudos a redondeados, márgenes extendidos, membranáceos, trinervados, 13-15 x 1.5-3 mm. **Labelo** unido a la columna, trilobado, bicalloso, con una carina central roma y dos laterales muy cortas, carnoso, convexo, 8.5-11 x 12-17.5 mm; lóbulos laterales oblicuamente ovados; lóbulo medio algo menor que los laterales, bilobado, los lóbulos semiorbiculares, margen eroso, con un apículo evidente en el seno apical. **Columna** recta, delgada, 8-11 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** ovoide, con una quilla roma al frente, 4-locular. **Polinios** 4, semiobovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, ligeramente más largas que polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/4 del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando menos de 1/4 del ovario, liso interiormente. **Cápsula** no vista.

Epiphytic herb, where the new stem arises from an intermediate internode of the previous stem. **Stems** terete, straight, covered by papery sheaths. **Leaves** 2-3, grouped towards the apex of the stem; sheath tubular; blade elliptic, apex obscurely bilobed, coriaceous, smooth, green. **Inflorescence** terminal, from the mature stem, flowers only once, racemose, arcuate; peduncle laterally compressed, without spathe, with two conduplicate bracts near the base. **Flowers** 12-16, successive, 6-8 open at the same time, resupinate, odorless; sepals and petals dull brown to reddish brown, column green at the base and ivory at the apex, lip ivory or somewhat yellowish. **Ovary** terete. **Dorsal sepal** reflexed, narrowly elliptic-oblanceolate, acute, 5-veined, with a secondary vein on each side of the midvein. **Lateral sepals** spreading, narrowly elliptic-oblanceolate, acute, oblique, 6-veined, with a secondary vein at each side of the midvein, dorsally keeled. **Petals** spreading, narrowly oblanceolate, acute to rounded, margins spreading, 3-veined. **Lip** united to the column, 3-lobed, bicallose, with a blunt central keel and two shorter lateral ones, fleshy, convex; lateral lobes obliquely ovate; midlobe slightly smaller than the lateral lobes, bilobed, with an apicule in the sinus, margins erose. **Column** straight, slender. **Clinandrium** obsolete, margin entire. **Anther** ovoid 4-celled. **Pollinia** 4, semiobovoid, laterally compressed, subequal; caudicles soft and granulose, slightly longer than the pollinia; viscidium semiliquid, transparent. **Rostellum** apical, slit. **Lateral stigma lobes** ca. 1/4 the length of the stigmatic cavity. **Nectary** shallow, penetrating less than 1/4 of the ovary, smooth.

DISTRIBUTION AND ECOLOGY: Known only from the type collection. Epiphyte at ca. 1600-1750 m altitude. Flowering from March to September.



RECOGNITION: Epidendrum badium is closely related to E. arbuscula Lindl., but can be distinguished by the midlobe of the lip about as large the the lateral lobes and separated from them by very narrow slits, the broad isthmus, the pale brown to reddish brown sepals and petals, the apex of the column and the lip ivory white to yellowish, and the flowers somewhat successive. Epidendrum arbuscula, on the other hand, has somewhat longer floral parts, the sepals about 20 mm long, the ovary 40 mm long, and the flowers are all open at the same time.

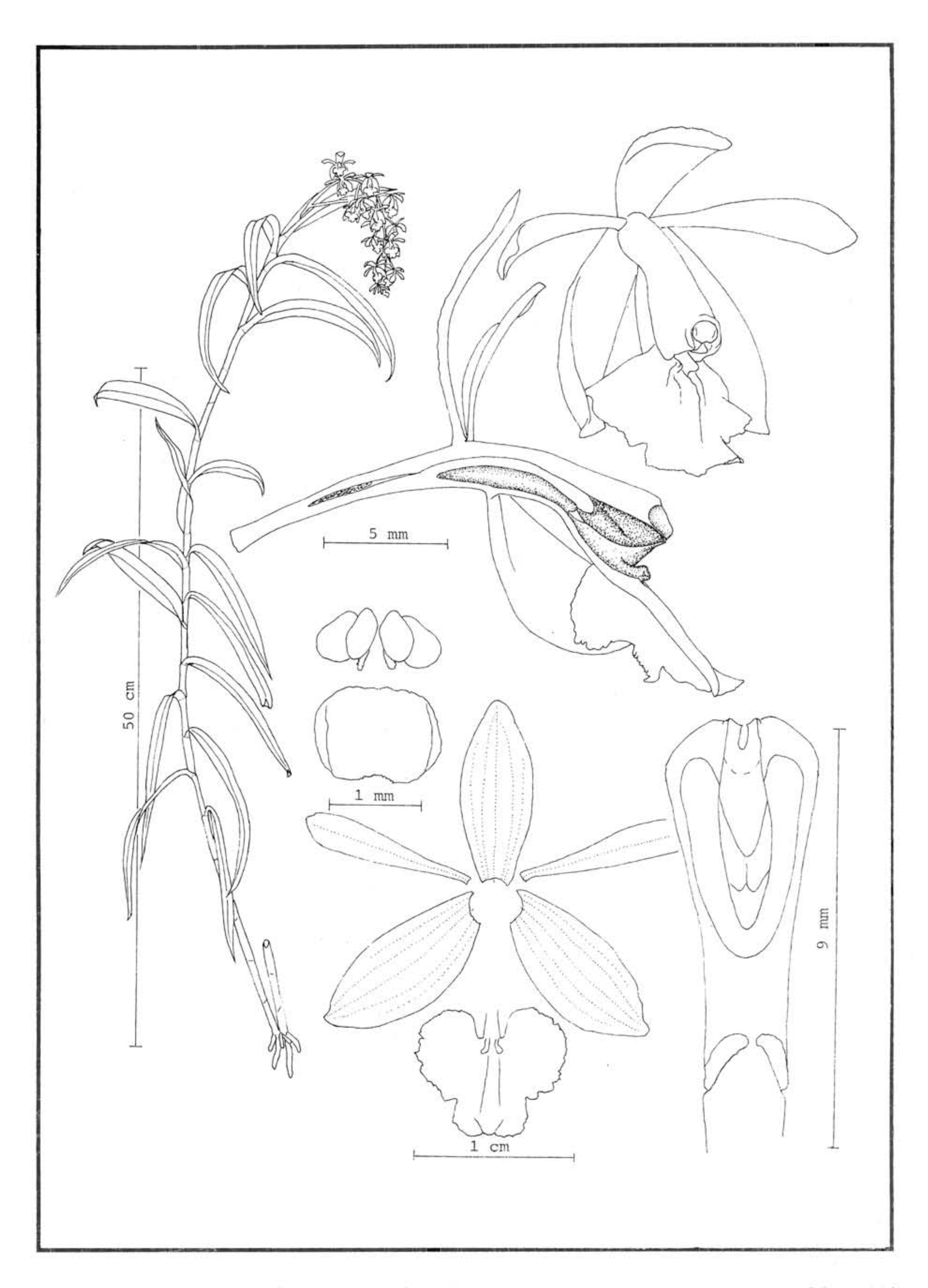
CONSERVATION STATUS: Unknown.

ETYMOLOGY: From the Latin badius, the color bay, dull brown or reddish brown, in reference to the color of the sepals and petals.

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EPIDENDRUM BAEZENSE Hágsater & Dodson

Text on the reverse side

Plate 111

EPIDENDRUM BAEZENSE Hágsater *et* Dodson, *sp. nov.*

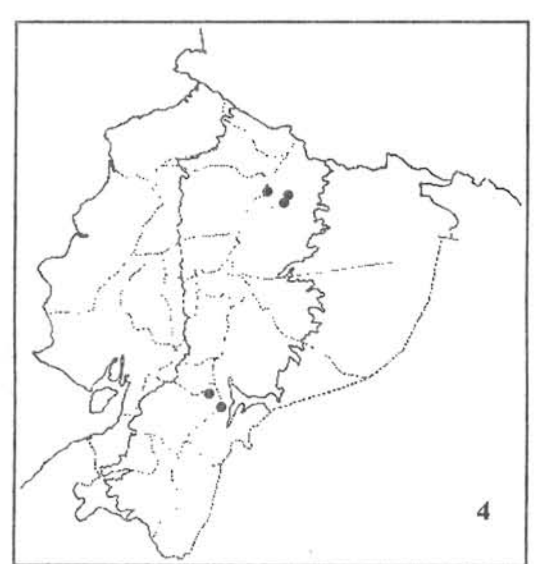
Holotype: ECUADOR: Napo: km 6, Baeza-Pifo, 1500-2100 m, colecta 14 abril 1984, prensado de material cultivado 5 noviembre 1987, *W. & B. Thurston [4088, en parte] sub Hágsater 7761*, QCNE! Isotype: AMO! (illustration voucher.) Clonotypes: 1 abril 1988, MO! 25 mayo 1990, RPSC! 14 septiembre 1990, AMES! COL! MICH! USM! P! S! W!

Epidendro exciso Lindl. simile, sed differt caule tereti, foliis anguste lanceolatis, acutis, 1-2 bracteis spathaceis acutis, labello cordato vix trilobato.

Hierba epífita o litófita, cespitosa, 25-120 cm de alto. **Raíces** basales, carnosas, 1-4 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 25-110 cm de largo, 3-6 mm de grosor. **Hojas** 4-11, distribuidas en los dos tercios apicales del tallo; vaina tubular, ligeramente estriada, hasta 5 cm de largo; lámina angostamente lanceolada, aguda, margen entero, subcoriácea, lisa, verde, 8-17 x 0.9-2.2 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, paniculada, frecuentemente con 1-2 pequeñas ramas, arqueada, 7-40 cm de largo; pedúnculo terete, arqueado, no ornamentado, generalmente con 2 brácteas espatáceas, amplexicaules, tubulares en la base, abiertas arriba, agudas, dorsalmente carinadas, de 3-8.5 cm de largo. **Bráctea floral** obsoleta. **Flores** 17-80, simultáneas, resupinadas, con fragancia nocturna herbácea, oleosa, color verde homogéneo, pronto tornándose amarillentas, en ocasiones el labelo muy levemente teñido de marrón. **Ovario** no inflado, terete, no ornamentado, 6-19 mm de largo. **Sépalos** libres, glabros, subcarnosos. **Sépalo dorsal** extendido, elíptico, redondeado, márgenes extendidos, 5-nervado, 9-13 x 3.5-4 mm. **Sépalos laterales** entreabiertos, elípticos, subagudos, márgenes extendidos, con quilla dorsal inconspicua, 5-nervados, 9-13 x 4-5 mm. **Pétalos** extendidos, angostamente oblanceolados, obtusos a redondeados, márgenes extendidos, membranáceos, uninervados, 8-12 x 1.5-2.5 mm. **Labelo** unido a la columna, someramente trilobado, cordiforme, bicalloso, con una carina central roma, subcarnoso, 6-9.5 x 7-10 mm (ancho entre los lóbulos laterales extendidos); lóbulos laterales semiorbiculares, erosos; lóbulo medio similar en tamaño a los laterales, subcuadrado, con un seno apical amplio y poco profundo, márgenes erosos. **Columna** arqueada en la base, delgada, 6-9 mm de largo incluyendo el clinandrio. **Clinandrio** muy corto, margen entero. **Antera** subreniforme-rectangular, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, los interiores más pequeños; caudículas suaves y granulosas, ligeramente más cortas que los polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** muy pequeños, menos de 1/4 del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando menos de 1/4 del ovario, liso interiormente. **Cápsula** no vista.

Epiphytic or lithophytic, caespitose herb. **Stems** reed-like, terete, straight. **Leaves** distributed along the apical 2/3 of the stems; sheath tubular, slightly striate; blade narrowly lanceolate, acute, subcoriaceous. **Inflorescence** terminal, from mature stems, flowers only once, paniculate, with 1-2 basal spathes, these tubular at the base, open above, acute. **Flowers** simultaneous, resupinate, green, fragrant at night. **Ovary** slender, not inflated. **Sepals** free, elliptic, rounded, somewhat fleshy, 5-veined. **Petals** narrowly oblanceolate, rounded, 1-veined. **Lip** united to the column, cordiform, shallowly 3-lobed, bicallose, with a low, rounded keel running down the center; lateral lobes semiorbicular, erose; midlobe subquadrate, margins erose, with a wide apical sinus. **Column** somewhat arcuate at base, slender. **Clinandrium** obsolete, entire. **Anther** subreniform-rectangular, unornamented, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose; viscidium semiliquid. **Rostellum** apical, slit. **Lateral stigma lobes** very small. **Nectary** penetrating less than 1/4 of the ovary, unornamented.

OTHER SPECIMENS: ECUADOR: Azuay: Andreetta sub Hágsater 9752, AMO! Morona-Santiago: Harling & Andersson 12754, GB! Napo: Dwyer & MacBryde 9603, QCA! Hágsater & Dodson 8913, AMES! AMO! JAUM! MO! QCNE! RPSC! SEL! Harling & Andersson 16489, GB! Hirtz 855, SEL! Luer & Hirtz 7009, SEL! Thurston 4065, AMO! Thurston & Latta sub Hágsater 7500, AMO! Thurston [4088, in part] sub Hágsater 7760, AAU! AMO! F! G! GB! K! MEXU! NY! S! SEL! US!



DISTRIBUTION AND ECOLOGY: Epidendrum baezense is apparently restricted to the eastern Ecuadorean slopes of the Andes, at elevations of 1300 to 2100 m, where it grows on trees and roadside embankments in wet forests. It has been recorded from the provinces of Azuay, Morona-Santiago and Napo, being sympatric with E. excisum. It is very common around Baeza.

RECOGNITION: Epidendrum baezense is superficially similar to E. excisum Lindl. However, the general shape of the lip is cordiform and rather shallowly 3-lobed, whereas in E. excisum the lip is deeply 3-lobed. The plants can be easily recognized by the narrowly lanceolate, acute leaves, and the acute, spathe-like bracts, whereas E. excisum has oblong, apically bilobed leaves and blunt, rounded spathes.

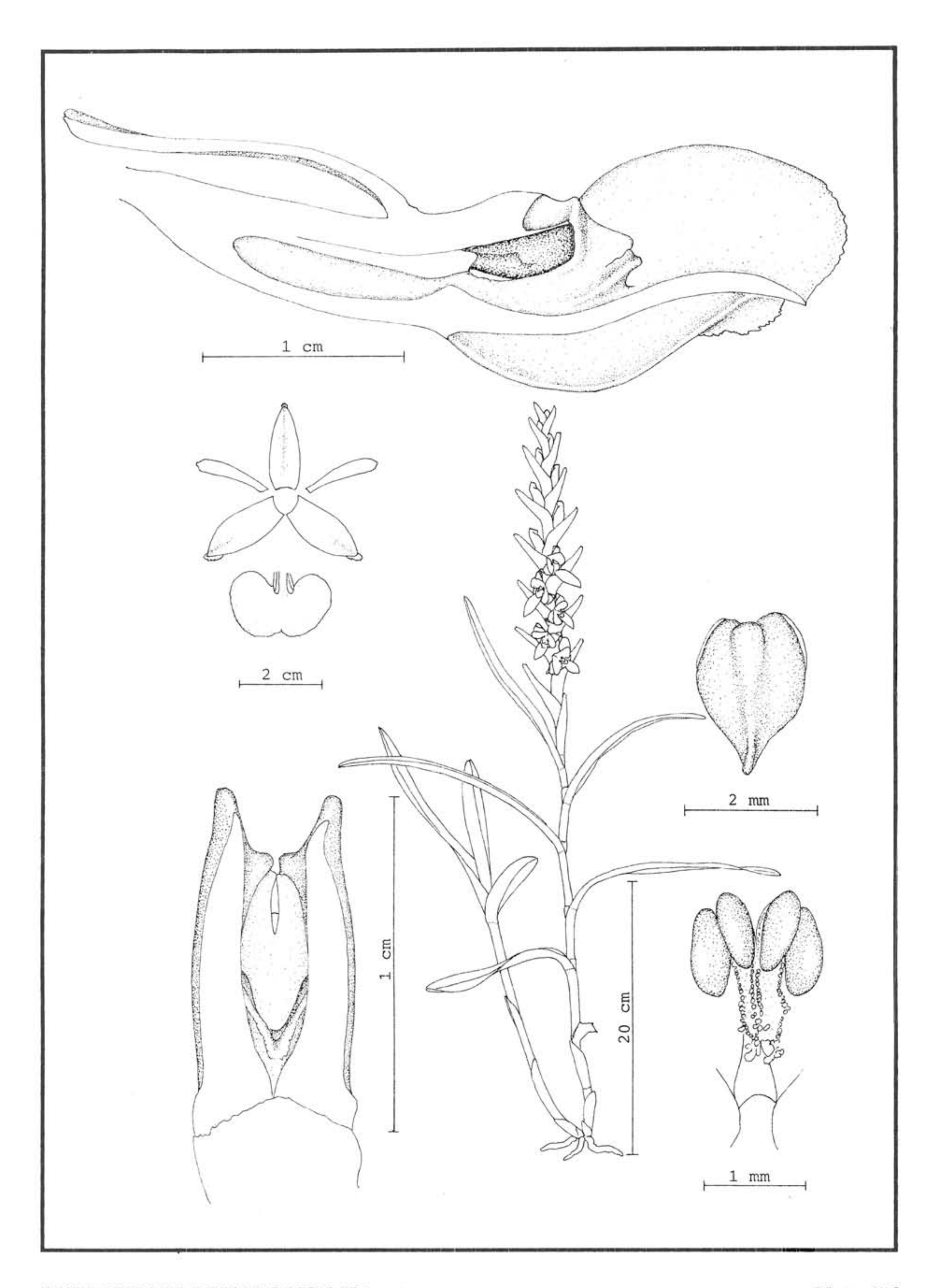
CONSERVATION STATUS: Unknown.

ETYMOLOGY: Named after the town of Baeza, Province of Napo, Ecuador.

Authors: E. Hágsater & C.H. Dodson Illustrator: E. Hágsater Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM BEHARORUM Hágsater

Text on the reverse side

Plate 112

EPIDENDRUM BEHARORUM Hágsater, *sp. nov.*

Holotype: GUATEMALA: Esquipulas, Chiquimula, 1200 m, prensado 16 septiembre 1981, *Béhar sub Hágsater 5778*, AMO! (illustration voucher.) Isotype: UVAL! Clonotypes: 20 noviembre 1982, QCNE! 27 junio 1983, F! 24 septiembre 1984, AMES! SEL! 22 octubre 1984, K!

Epidendro coriifolio Lindl. simile, sed habitu caespitoso, inflorescentia quam foliis multo longiore, floribus successivis, bracteis floralibus patentibus, rigidis, angustis, rectis, apice truncato dentatoque, et petalis anguste oblanceolatis, 3-nervibus differt.

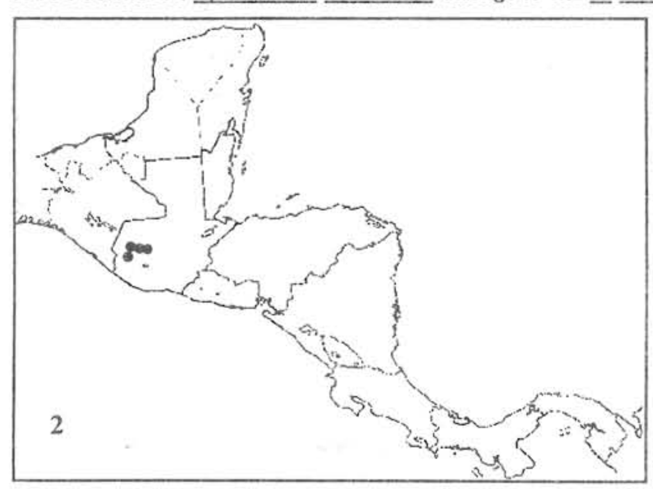
Hierba epífita, cespitosa, ca. 45 cm de alto. **Raíces** basales, carnosas, gruesas, 2-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 27 x 0.4-0.8 cm. **Hojas** 3-6, distribuidas a lo largo del tallo; vaina tubular, lisa, hasta 4.5 cm de largo; lámina linear-elíptica, ápice desigualmente bilobado, margen entero, subcoriácea, lisa, verde, 11-20 x 1.2-2.5 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, dística, erecta, 17-30 cm de largo; pedúnculo sin espata, con 1-3 brácteas espaciadas, conduplicadas, de 35-47 mm de largo; raquis lateralmente comprimido, no ornamentado, en zig-zag. **Brácteas florales** tan largas como el ovario y el perianto juntos (después de polinizada la flor, el ovario se alarga hasta ser más largo que la bráctea), algo amoratadas, largamente triangular-ovadas, conduplicadas, extendidas, no imbricadas, dejando más de la mitad de cada segmento del raquis expuesto, ápice truncado, dentado, 22-43 x 4-8 (10) mm. **Flores** 8-14, sucesivas, hasta 5 abiertas a la vez, todas abiertas hacia el mismo lado del racimo de manera que la inflorescencia parece secunda, verdes, los sépalos algo amoratados; fragancia no registrada. **Ovario** inflado en los dos tercios apicales, terete, no ornamentado, 13-16 mm de largo, alargándose después de la polinización hasta ca. 35 mm. **Sépalos** libres, glabros, coriáceos, los laterales con quilla dorsal prominente y dentada. **Sépalo dorsal** lanceolado, agudo, reflexo, márgenes extendidos, 7-nervado, 18 x 6 mm. **Sépalos laterales** oblanceolados, agudos, entreabiertos, márgenes extendidos, 7-nervados, 18 x 7 mm. **Pétalos** angostamente oblanceolados, obtusos, entreabiertos, márgenes extendidos, diminutamente dentados, 3-nervados, 17 x 3.5 mm. **Labelo** unido a la columna, entero, obreniforme, ecalloso, con carina media obsoleta, base cordada, ápice truncado, emarginado, márgenes finamente erosos, 13 x 24 mm. **Columna** recta, gruesa, 10 mm de largo incluyendo el clinandrio. **Clinandrio** obsoleto, la antera totalmente expuesta arriba, margen entero. **Antera** ovoide, aguda, con una quilla roma al frente, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, un poco más largas que los polinios; viscidio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad estigmática. **Nectario** profundo, penetrando la mitad del ovario, liso interiormente. **Cápsula** elipsoide, sésil, ca. 4 x 2 cm.

Epiphytic, caespitose **herb**. **Stems** simple, reed-like, terete, straight. **Leaves** 3-5, linear-elliptic, apex bilobed, coriaceous. **Inflorescence** terminal, from the mature stem, flowers only once, racemose, distichous, erect; rachis zigzag, laterally compressed, ancipitous. **Floral bracts** as long as ovary and perianth together, long-triangular, conduplicate, spreading, not imbricating, apex truncate, dentate, somewhat tinged with purple. **Flowers** 8-14, successive, to 5 open at a time, all opening towards the same side of the raceme, green with sepals somewhat tinged with purple. **Ovary** inflated in the apical 2/3. **Sepals** lanceolate to oblanceolate, the lateral ones dorsally keeled, 7-veined. **Petals** narrowly oblanceolate, obtuse, 3-veined. **Lip** united to the column, entire, obreniform, ecallose, with an obsolete central keel, base cordate, apex emarginate. **Column** straight. **Clinandrium** obsolete. **Anther** ovoid, acute, with a low keel in front, 4-celled. **Pollinia** 4, obovoid, laterally compressed, subequal; caudicles soft and granulose, slightly longer than the pollinia; viscidium semiliquid, transparent. **Rostellum** slit. **Nectary** deep, penetrating half the ovary. **Capsule** ellipsoid, sessile.

OTHER SPECIMENS: GUATEMALA: El Quiché: Contreras 5090, LL! **Huehuetenango:** Johnston 1409, AMES! SEL! Skutch 1042, AMES! K! 1917 AMES! K! Standley 62639, F! Steyermark 49019, F! **Quetzaltenango:** Hawkes et al. 1800, K! **Hort. Guatemala:** Doring s.n., M! Steyermark 46389, F!

DISTRIBUTION AND ECOLOGY: Known only from Guatemala. Epiphyte, in mixed forests at 1200-2800 m altitude. Flowering from June to November.

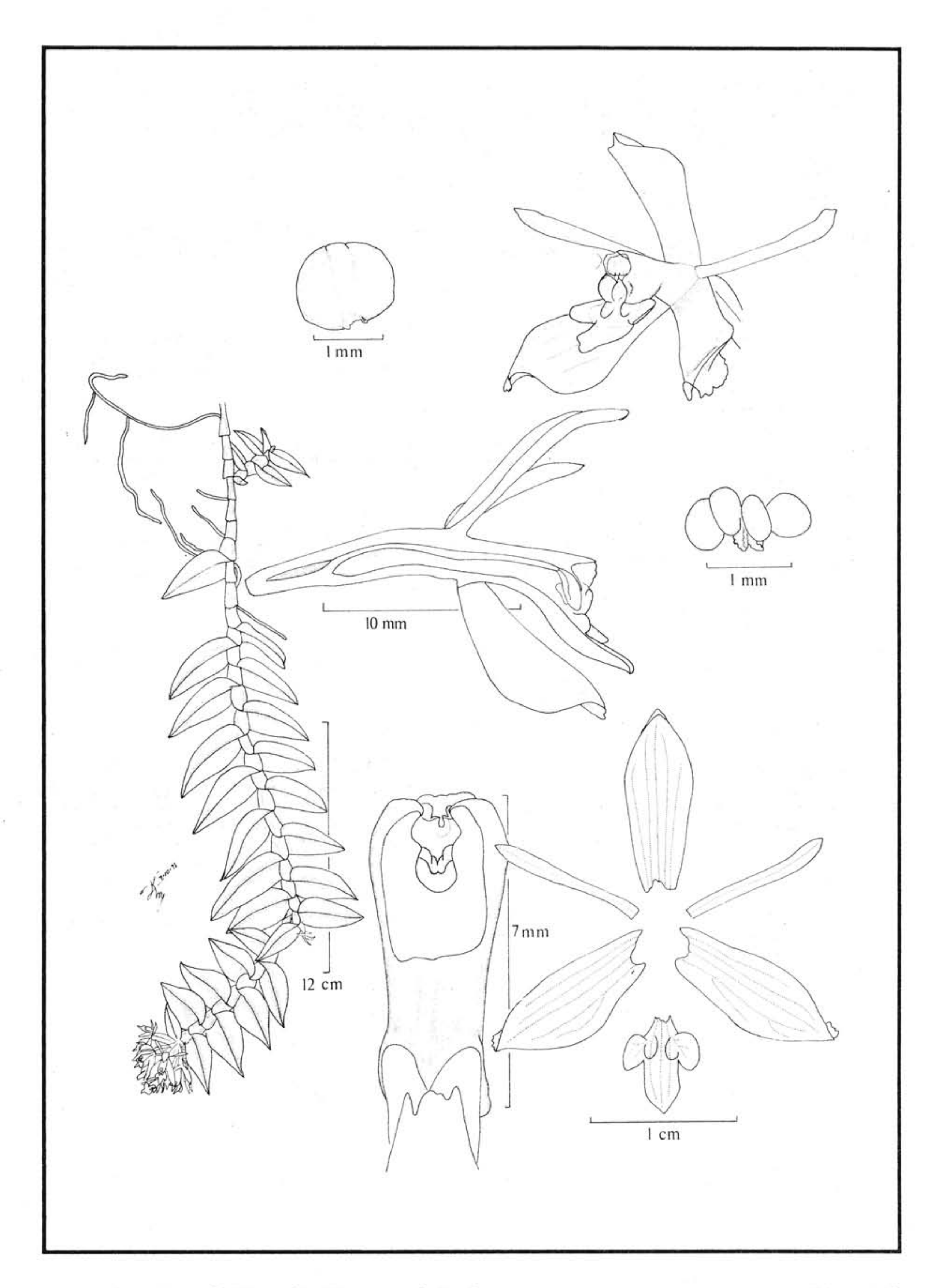
RECOGNITION: Epidendrum beharorum belongs to the E. coriifolium Lindl. group and can be distinguished by the elongate, terete stem with 3-5 linear-elliptic leaves, the long inflorescence with long, narrow, spreading, truncate bracts, the successive flowers (3-5 open at the same time), and the 3-veined petals. It has been confused with E. coriifolium, from Mexico and Guatemala, which has short, compact plants, inflorescence about as long as the apical leaf, and simultaneous flowers. Epidendrum allochronum Hágsater produces one flower at a time and has 1-nerved petals appressed against the lateral sepals. Epidendrum palmense Ames has acute bracts. Epidendrum summerhayesii Hágsater has short, imbricating, rounded bracts dotted with purple. Epidendrum subviolascens Schltr. has acute bracts and narrow leaves.



CONSERVATION STATUS: Unknown.

ETYMOLOGY: Dedicated to Dr. Alberto and María Cristina Béhar, of Guatemala, who have been active in the Asociación Guatemalteca de Orquideología, and have had a long-standing interest in the native species.

Author: E. Hágsater **Ilustrator: E. Hágsater** **Editors: E. Hágsater & G. A. Salazar**



EPIDENDRUM BONITENSE Hágsater & Dodson

Text on the reverse side

Plate 113

EPIDENDRUM BONITENSE Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Sucumbíos: Santa Bárbara, km 61.3 desviación de la carretera Tulcán-Ibarra hacia La Bonita, después de Santa Bárbara, unos 500 m antes del puente, 1990 m, colecta 8 julio 1990, prensado en cultivo 17 octubre 1991, *E. Hágsater 10821, C. H. Dodson, D. Rubio y N. Revelo*, QCNE! (illustration voucher.)

Epidendro nanopsi Dodson & Hágsater simile, sed differt floribus majoribus, labeli lobo mediano subrectangulari, acuto, anthera viridi, glabra.

Hierba epífita, colgante, 10-30 cm de largo. **Raíces** filiformes, de la porción basal del tallo principal, 0.5-0.9 mm de grosor. **Tallos** sencillos, horizontales a colgantes, foliosos cuando jóvenes, lateralmente comprimidos, completamente cubiertos por vainas foliares ancipitosas, evanescentes, 5-25 cm de largo, produciendo tallos nuevos de cerca del ápice o en la parte intermedia del tallo anterior en plantas viejas. **Hojas** distribuidas a todo lo largo de los tallos, grisáceo-verdosas; vaina tubular, ancipitosa, dilatada hacia el ápice, 8-18 x 4-8 mm; lámina ovada, aguda, algo oblicua, subcoriáceo-suculenta, 28-50 x 8-20 mm. **Inflorescencia** terminal racemosa, subumbelada, colgante, provista de una bráctea basal semejante a las florales, carinada, ovado-acuminada, 11 x 3.5 mm. **Bráctea floral** carinada, angostamente ovado-acuminada, algo más corta hasta poco más larga que el ovario, 6-12 x 3.5-6 mm. **Flores** 5-8, simultáneas, verde glauco con ligeros tintes morados, la antera verde. **Ovario** inflado ventralmente en los 2/3 apicales, 12 mm de largo. **Sépalos** obovados, agudos, 4-5-nervados, entreabiertos, los laterales con una quilla dorsal apical erosa, 12 x 5 mm. **Pétalos** lineares, agudos, entreabiertos, uninervados, 10 x 1 mm. **Labelo** unido a la columna, trilobado, carnoso, 5 x 5 mm, con dos callos basales globosos; lóbulos laterales oblicuamente ovados, enteros; lóbulo medio subrectangular, dos veces más largo que ancho, agudo. **Columna** recta, 7 mm de largo. **Clinandrio** prominente, sobresaliendo ligeramente en el ápice de la columna, eroso. **Antera** subesférica, glabra, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, caudículas granulosas, de longitud semejante a los polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido, amplio. **Lóbulos laterales del estigma** prominentes. **Nectario** muy profundo, penetrando 2/3 del ovario. **Cápsula** no vista.

Epiphytic, hanging herb. **Roots** filiform, from the basal portion of the main stem. **Stems** simple, compressed, completely covered by evanescent, ancipitous sheaths, new stems produced from near the apex of the previous one, or from the middle in older plants. **Leaves** distributed throughout the stem, grayish-green; sheath tubular, ancipitous; blade ovate, acute, somewhat oblique, subcoriaceous-succulent. **Inflorescence** terminal, racemose, subumbellate, with a carinate basal bract. **Flowers** 5-8, simultaneous, glaucous green with a faint purple tinge. **Ovary** inflated ventrally towards the apical 2/3. **Sepals** obovate, acute, 4-5-veined. **Petals** linear, acute, 1-veined. **Lip** united to the column, 3-lobed, fleshy, with 2 basall, globose calli; lateral lobes obliquely ovate; midlobe subrectangular, twice as long as wide, acute. **Column** straight. **Clinandrium** slightly protruding at the column apex, erose. **Anther** subspherical, glabrous, 4-celled. **Pollinia** 4, obovoid, laterally compressed, with two pairs of granular caudicles, viscidium semiliquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent. **Nectary** deep, penetrating 2/3 of the ovary.

DISTRIBUTION AND ECOLOGY: Presently known only from the type locality, but may be more widespread. Epiphyte in wet, well ventilated forests at around 2000 m altitude. Flowering from May to July.

RECOGNITION: Epidendrum bonitense belongs to the E. nanum C. Schweinf. group and is closely related to E. nanopsis Dodson & Hágsater, from which can be distinguished by the larger flowers (the sepals being 12 mm long), the subrectangular, acute, twice as long as wide lip, and the somewhat different coloring of the anther. Epidendrum bonitense was found sympatric with the similar E. thelephorum Hágsater & Dodson, which is smaller, with the midlobe of the lip ovate, rounded, and the anther prominently papillose. This group of species has been little studied, and further work in the field will certainly produce other undescribed species. The vegetative habit is that of a caespitose plant which also produces new stems from near the apex of the previous stem, a feature typical of this group of species.



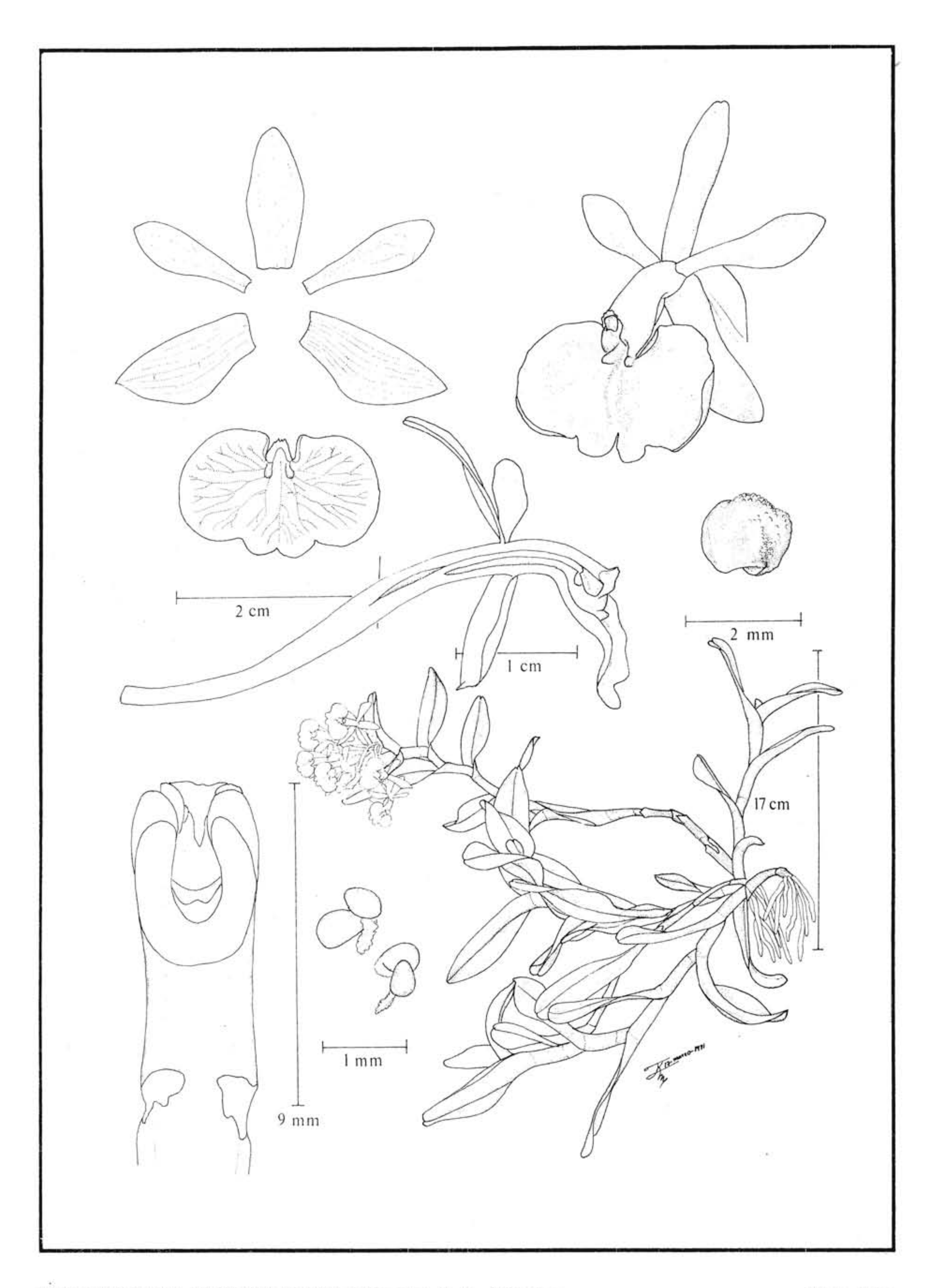
CONSERVATION STATUS: Unknown.

ETYMOLOGY: In reference to the locality where the species was collected, La Bonita, Sucumbíos, Ecuador.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM BORICUARUM Hágsater & L. Sánchez **Plate 114**

Text on the reverse side

EPIDENDRUM BORICUARUM Hágsater *et* L. Sánchez, *sp. nov.*

Holotype: PUERTO RICO: Sierra de Luquillo, colectado 18 julio 1986, prensado 31 julio 1992, *E. Hágsater 8751*, AMO! (illustration voucher.)

Epidendro difformi Jacq. simile, sed caulibus leviter compressis, labello in ambitu transverse oblongo parum cordato, lobo mediano multo breviore, quam longo multo latiore, callis disjunctis, parallelis, et columna valde arcuata differt.

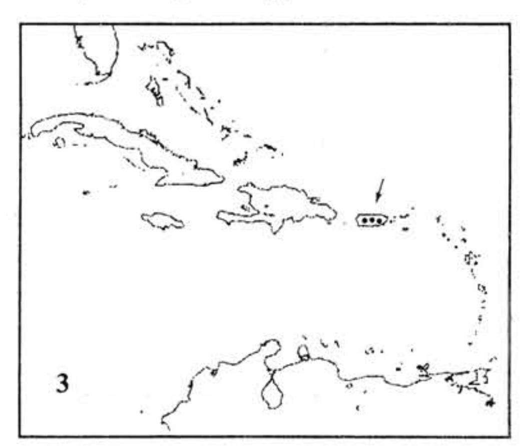
Hierba epífita, cespitosa, 13-30 cm de alto. **Raíces** basales, carnosas, 1-2.4 mm de grosor. **Tallo** sencillo, tipo caña, algo comprimido lateralmente, no ancipitoso, flexuoso, 15-28 cm de largo. **Hojas** 6-12, equidistantes a lo largo del tallo; vaina comprimida lateralmente, lisa; lámina subcoriácea, elíptica a angostamente ovada, ápice desigualmente bilobado, márgenes enteros, lisa, con carina dorsal obsoleta, verde, 2-7 x 0.5-2.1 cm. **Inflorescencia** terminal en el tallo maduro, subumbelada, florece una sola vez, cortamente pedunculada. **Bráctea floral** mucho más corta que el ovario, 5 mm de largo. **Flores** (1) 2-8, resupinadas, simultáneas, verdes, fragantes. **Ovario** dilatado hacia el perianto, terete, no ornamentado, 22-45 mm de largo. **Sépalos** subcoriáceos, glabros, libres. **Sépalo dorsal** elíptico, agudo, márgenes enteros, extendidos, 5-nervado, 10-14 x 2-5 mm. **Sépalos laterales** algo falcados, oblicuamente elípticos, agudos, márgenes enteros, extendidos, 5-nervados, 10-13 x 4-7 mm. **Pétalos** membranáceos, oblanceolados, agudos a redondeados, márgenes enteros, extendidos, 3-nervados, 10-12 x 1-3 mm. **Labelo** unido a la columna, trilobado, ligeramente arqueado, transversalmente oblongo en contorno general, más ancho entre los lóbulos laterales, coriáceo en el centro, membránaceo en los márgenes, bicalloso, los callos separados y paralelos entre sí, el disco con pequeñas gotas de néctar, 7-11 x 14-19.5 mm; lóbulos laterales semiorbiculares, simétricos, margen entero; lóbulo medio corto y muy ancho (casi 4 veces más ancho que largo), emarginado, formando dos lóbulos semiorbiculares. **Columna** fuertemente arqueada, 9 mm de largo. **Clinandrio** no prominente, entero, margen sinuoso. **Antera** subglobosa, papilosa, 4-locular. **Polinios** 4, subiguales, semiovados, lateralmente comprimidos; caudículas suaves y granulosas; viscidio viscoso, translúcido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños. **Nectario** corto, penetrando 1/4 del ovario, no ornamentado. **Cápsula** elipsoide, 20-30 mm de largo.

Epiphytic, caespitose **herb**. **Stem** reed-like, somewhat compresssed laterally, not ancipitose, flexuous. **Leaves** 6-12, elliptic to narrowly ovate. **Inflorescence** terminal, subumbellate, flowers only once, shortly pedunculate. **Flowers** (1) 2-8, simultaneous, resupinate, green, fragrant. **Sepals** subcoriaceous, glabrous, free, elliptic, acute, margins entire, spreading; lateral sepals oblique. **Petals** membranaceous, oblanceolate, acute to rounded, margins entire, spreading. **Lip** united to the column, 3-lobed, transversely oblong in outline, bicallose, calli separated, parallel, disc with small drops of nectar, margins entire; lateral lobes semiorbicular; midlobe very short and wide, emarginate, forming two semiorbicular lobules. **Column** strongly arcuate. **Clinandrium** entire, margin sinuate. **Anther** subglobose, papillose, 4-celled. **Pollinia** 4, semiovate, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent. **Rostellum** subapical, slit. **Nectary** short, penetrating 1/4 of the ovary. **Capsule** ellipsoid.

OTHER SPECIMENS: PUERTO RICO: Ackerman 1876, UPRRP! 2059, UPRRP! 2065, UPRRP! 2199, UPRRP! 2328, UPRRP! 2358, UPRRP! 2408, UPRRP! 2492, UPRRP! 2493, UPRRP! Ackerman et al. 1582, UPRRP! 1864, UPRRP! 1940, UPRRP! 2051, UPRRP! Ackerman sub Hágsater 9208, AMO! AMES! F! K! MO! NY! SEL! Hágsater 8749, AMO! UPRRP! 8750, AMO! Parrilla 27, UPRRP! Sintenis 498, AMES! W!

DISTRIBUTION AND ECOLOGY: At present known only from Puerto Rico, but the species may very well be found on neighboring islands. Epiphyte, in humid broad-leaved forests from 300 to 900 m altitude. The flowers produce a nocturnal fragrance of cucumbers, which in daytime is very weak. It is visited at night by moths.

RECOGNITION: Epidendrum boricuarum is very similar to E. difforme Jacq., but can be separated by the slightly laterally compressed stems, the lip slightly arcuate, transversely oblong in outline, the base shallowly cordate, the calli separated and parallel, the lateral lobes semiorbicular, symmetrical, the midlobe very short and wide, almost 4 times as wide as long, and the strongly arcuate column. Epidendrum difforme has strongly laterally compressed, ancipitous stems, the lip strongly recurved above the middle, cordiform in outline, the base deeply cordate, the calli approximate and diverging, the lateral lobes more or less semiorbicular but somewhat oblique, the midlobe subquadrate, slightly wider than long, and the column straight to very slightly arcuate. Epidendrum floridense Hágsater is also similar but has terete stems and entire or very shallowly lobed lip, which is either reniform, emarginate or with two small, rounded apical lobes.



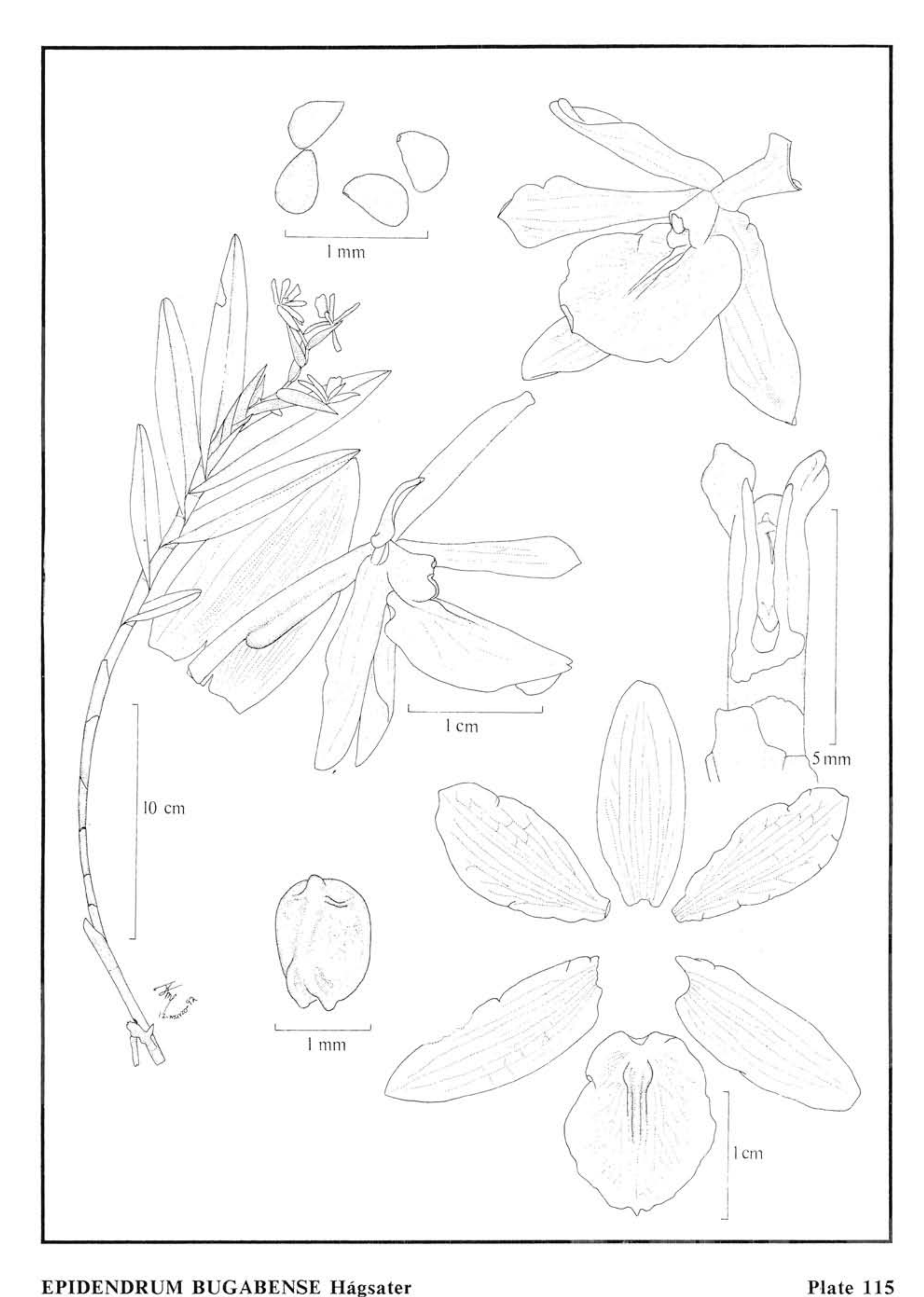
CONSERVATION STATUS: Undetermined. The species seems to be common in the Cordillera Central of Puerto Rico.

ETYMOLOGY: This species is dedicated to the Boricuas, the original inhabitants of the island of Puerto Rico before its discovery by Christopher Columbus, and the name by which today's inhabitants of the island are familiarly called by other Latin Americans.

Authors: E. Hágsater & L. Sánchez Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM BUGABENSE Hágsater

Text on the reverse side

Plate 115

EPIDENDRUM BUGABENSE Hágsater, *sp. nov.*

Holotype: PANAMA: Chiriquí: Distrito Bugaba, Cerro Punta, 8°52'N, 82°33'W, 2200 m, along ridge to watershed to Bocas del Toro, 26 January 1985, *H. van der Werff & J. Herrera 6427*, AMO! (illustration voucher.) Isotype: MO!

Epidendro polychlamydi Schltr. simile, sed differt foliis longioribus angustioribusque, racemo laxo, floribus paucioribus, et petalis rotundatis.

Hierba epífita, rastrera, de crecimiento sucesivo lateral. **Raíces** carnosas producidas en la base de cada tallo, ca. 2 mm de grosor. **Tallos** producidos de un nudo intermedio del tallo anterior, 17-30 cm de largo, 4.5-7 mm de grosor arriba, cubiertos en la mitad basal por vainas escariosas. **Hojas** ca. 6, distribuidas en el tercio apical del tallo; vainas tubulares, lateralmente comprimidas, estriadas en material seco, 18-35 mm de largo; láminas angostamente lanceolado-elípticas, ápice bilobado, margen entero, sulcadas, progresivamente más grandes hacia el ápice del tallo, 3.5-12 x 0.9-2.1 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, racemosa, ca. 10 cm de largo, envuelta en la base por 6 brácteas imbricadas, agudas, de ca. 3 cm de largo; raquis delgado, 8-9 mm de largo entre dos flores contiguas. **Brácteas florales** ovadas, agudas, conduplicadas, cubriendo el ovario e igual o un poco más largas que él, 15-33 x 9-15 mm al extenderse. **Flores** 4, simultáneas, sin orientación particular, "rojas". **Ovario** inflado, formando una vesícula ventral alargada en los 2/3 apicales, 15-22 mm de largo. **Sépalos** elípticos, redondeados, los laterales algo falcados, ca. 7-9 nervados, las nervaduras algo ramificadas, 14-18 x 6 mm. **Pétalos** obovados, redondeados, ca. 5-nervados en la base, nervaduras ramificadas, 13-16 x 8 mm. **Labelo** unido a la columna, entero, obovado-suborbicular, bicalloso en la base, los callos laminares, poco prominentes, disco con 3 quillas, ápice redondeado, apiculado, 13 x 12 mm. **Columna** corta, deflexa en la base, 5 mm de largo, el ápice con un par de lóbulos apicales prominentes, redondeados, divergentes, anchos. **Clinandrio** carnoso, margen eroso, cubriendo parcialmente la antera. **Antera** ovoide, con una quilla roma al frente bifurcada hacia el ápice. **Polinios** obovoides, lateralmente comprimidos; caudículas aparentemente granulosas y muy cortas. **Rostelo** subapical, hendido. **Nectario** penetrando 2/3 del ovario y formando una vesícula ventral alargada. **Cápsula** no vista.

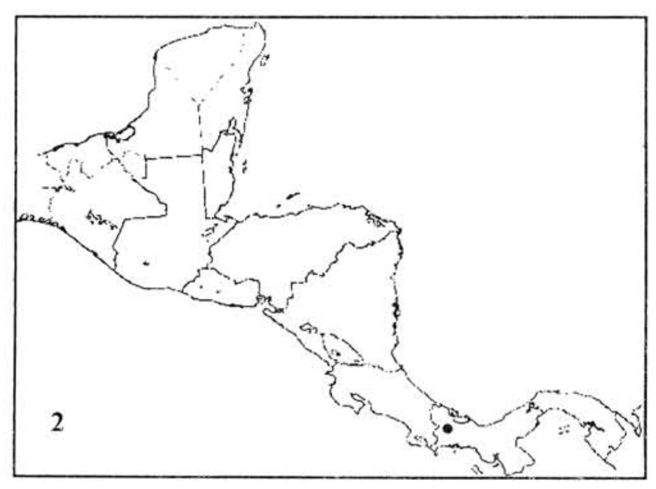
Epiphytic, repent herb. **Stems** produced from an intermediate node of the previous stem. **Leaves** narrowly lanceolate-elliptic, apex bilobed, progressively larger towards the apex of the stem. **Inflorescence** terminal, from the mature stem, flowers only once, racemose, with 6 imbricating bracts at the base. **Ovary** with a swollen, elongate ventral vesicle on the apical two thirds. **Flowers** simultaneous, without any particular orientation, "red". **Sepals** elliptic, rounded, ca. 7-9 veined, veins branching. **Petals** obovate, rounded, ca. 5-veined, veins branching. **Lip** entire, obovate-suborbicular, rounded, apiculate, shallowly bicallose at the base, 3-carinate. Column deflexed at the base, with two prominent, rounded, divergent lateral-apical lobes. **Clinandrium** fleshy, margin erose, partially covering the anther. **Anther** ovoid, with a front keel bifurcate towards the apex. **Pollinia** 4, obovoid, laterally compressed; caudicles apparently granulose and very short. **Rostelium** subapical, slit. **Nectary** penetrating 2/3 of the ovary and forming an elongate vesicle on its underside.

DISTRIBUTION AND ECOLOGY: PANAMA: Known only from the type collection. On trees at 2200 m altitude. Flowering in January.

RECOGNITION: Epidendrum bugabense belongs to the E. polychlamys Schltr. group and can be identified by the lax inflorescence, the flowers spaced some 8-9 mm, the 13-16 mm long and 6 mm wide sepals, the broadly rounded petals (especially evident in pressed material), the lip nearly as wide as long, and the column bent downwards in relation to the ovary, and then turned somewhat upwards. It is closely related to E. lutheri Hágsater, which has narrower, acute segments and green flowers. Epidendrum polychlamys has shorter, wider leaves, more flowers (8-15) on a compact inflorescence, and acute sepals 13 mm long. Epidendrum barbae Rchb. f. has acute sepals and flabellate, emarginate lip. Epidendrum cryptanthum L.O. Williams has a compact, dense inflorescence and the lip ovate, cordate at the base, with the lateral margins involute.

CONSERVATION STATUS: Unknown.

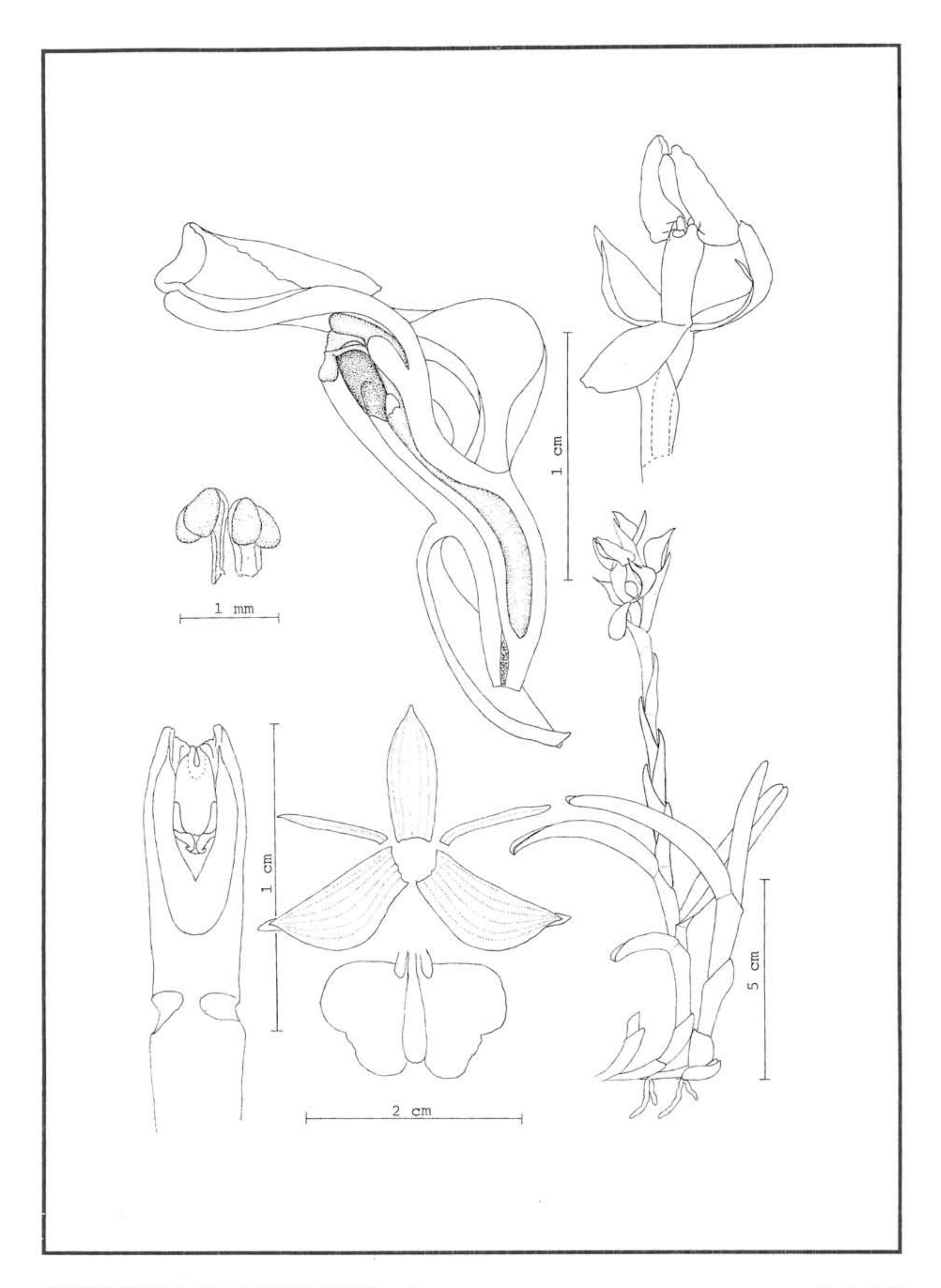
ETYMOLOGY: The epithet refers to the district of Bugaba, Chiriquí, Panamá.



Author: E. Hágsater   Ilustrator: R. Jiménez   Editors: E. Hágsater & G. A. Salazar

Herbario de la Asociación Mexicana de Orquideología, A.C.   Plate 115

Apartado Postal 53-123, 11320 México, D.F., MEXICO   ICONES ORCHIDACEARUM 2. 1993



EPIDENDRUM CALUERORUM Hágsater

Text on the reverse side

Plate 116

EPIDENDRUM CALUERORUM Hágsater, *sp. nov.*

Holotype: PANAMA: Coclé: N of El Copé, 700 m, vertiente atlántica, preparado de material cultivado 23 junio 1986, *R.L. Dressler sub E. Hágsater 6299*, AMO! (illustration voucher.) Clonotypes: 11 enero 1991, CR! 7 junio 1991, F! 1 julio 1991, AMES! K! NY! SEL! 3 julio 1992, MO! G! L! P! 6 noviembre 1992, ENCB! MEXU! PMA!

Epidendro coriifolio Lindl. simile, sed inflorescentia quam foliis longiore, floribus successivis, bracteis floralibus acutis, ovarii longitudine aequantibus, sepalo dorsali reflexi, petalis 1-nervibus, et labello bicalloso differt.

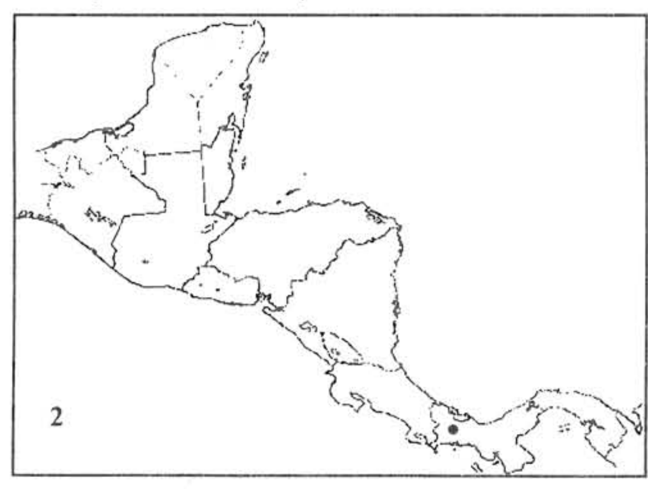
Hierba epífita, cespitosa, 18-28 cm de alto. Raíces basales, carnosas, delgadas, 1-2.5 mm de grosor. **Tallos** sencillos, tipo caña, rectos, lateralmente comprimidos, los entrenudos basales formando rizomas abreviados de hasta 1 cm de largo, cubiertos cuando jóvenes por vainas tubulares lateralmente comprimidas, la parte erecta del tallo con 4-6 entrenudos alargados, 8-17 x 0.3-0.6 cm. **Hojas** 3-5, distribuidas en la mitad apical del tallo; vaina tubular, lisa (estriada en ejemplares de herbario), hasta 4.5 cm de largo; lámina linear a angostamente elíptica, ápice asimétricamente bilobado, margen entero, coriácea, lisa, verde, 3-12 x 0.8-1.5 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, dística, erecta, 9-21 cm de largo; pedúnculo sin espata, con 1-7 brácteas agudas, las inferiores imbricadas, conduplicadas, de 17-24 mm de largo; raquis lateralmente comprimido, flexuoso, ancipitoso, alado. **Brácteas florales** semejantes a las del pedúnculo, del largo del ovario, casi paralelas al pedúnculo, conduplicadas, agudas, ovadas al extender, 8-20 mm de largo. **Flores** 3-6, no resupinadas, sucesivas, generalmente 3-4 presentes en diferentes estados post-antesis, color verde a verde pálido, brillante, homogéneo. **Ovario** inflado desde la base, terete, no ornamentado, 7-17 mm de largo. **Sépalos** libres, glabros, coriáceos, los laterales con quilla dorsal prominente. **Sépalo dorsal** reflexo, elíptico, agudo, márgenes extendidos, 5-nervado, 11-17 x 3-5 mm. **Sépalos laterales** inflexos, elípticos, algo falcados, agudos, márgenes extendidos, 5(6)-nervados, 12-16 x 4-7 mm. **Pétalos** generalmente apresados contra los sépalos laterales, lineares, agudos, márgenes extendidos, enteros, uninervados, 9-12 x 0.7-1.15 mm. **Labelo** unido a la columna, entero, subtrapezoide, bicalloso, con una carina central roma, carnosa, llegando hasta el seno apical, base truncada o en ocasiones cordada, ápice bilobado, ampliamente mucronado, márgenes enteros, revolutos, 7-11 x 9-17 mm. **Columna** ligeramente arqueada, formando con el ovario una figura sigmoide, gruesa, 6-9 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** ovoide, no ornamentada, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, ca. dos veces del largo de los polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/4 del largo de la cavidad estigmática. **Nectario** muy profundo, penetrando 3/4 del ovario, liso interiormente. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stems** arising from abbreviated rhizomes, erect, laterally compressed. **Leaves** 3-5, distributed along the apical half of the stem, narrowly elliptic, apex unequally bilobed, subcoriaceous. **Inflorescence** terminal, from the mature stem, flowers only once; rachis laterally compressed, ancipitous. **Floral bracts** prominent, conduplicate, imbricating, as long as the ovary, acute. **Flowers** successive, usually 3-4 open at the same time, non-resupinate, green to light green. **Sepals** elliptic, acute, dorsal reflexed, laterals inflexed, somewhat falcate, prominently keeled dorsally. **Petals** linear, acute, usually appressed against the lateral sepals. **Lip** united to the column, entire, subtrapezoid, bicallose, with a fleshy keel running down the center and forming a rounded, fleshy mucro, apex bilobed, margins entire, revolute. **Column** slightly arcuate, together with the ovary forming a sigmoid figure. **Pollinia** 4, laterally compressed; caudicles granulose; viscidium semiliquid, transparent. **Nectary** very deep, penetrating 3/4 of the ovary.

OTHER SPECIMENS: PANAMA: Chiriquí: Dressler 5512, MO! 5789, AMO! MO! Luer et al. 10581, MO! Coclé: Dressler 5648, AMO! Folsom 6219, AMO!

DISTRIBUTION AND ECOLOGY: Apparently restricted to western Panamá. Epiphyte, in cloud forests at around 700 to 1200 m altitude. In cultivation it flowers during most part of the year.

RECOGNITION: Epidendrum caluerorum belongs to the E. coriifolium Lindl. group and can be distinguished by the 3-5 linear to narrowly elliptic leaves, the inflorescence longer than the leaves, the acute bracts about as long as the ovary and subparallel to the rachis, the successive flowers of which 3-4 are open at the same time, and the bicallose lip. E. coriifolium has a short, compact plant, inflorescence about as long as the apical leaf and simultaneous flowers. E. allochronum Hágsater has narrowly rounded, spreading bracts and produces one flower at a time. E. beharorum Hágsater has a much longer, many-flowered successive inflorescence and truncate bracts. E. palmense Ames has acute bracts but many-flowered inflorescences. E. summerhayesii Hágsater has short, imbricating, rounded bracts dotted with purple. E. subviolascens Schltr. has acute bracts and narrow leaves.

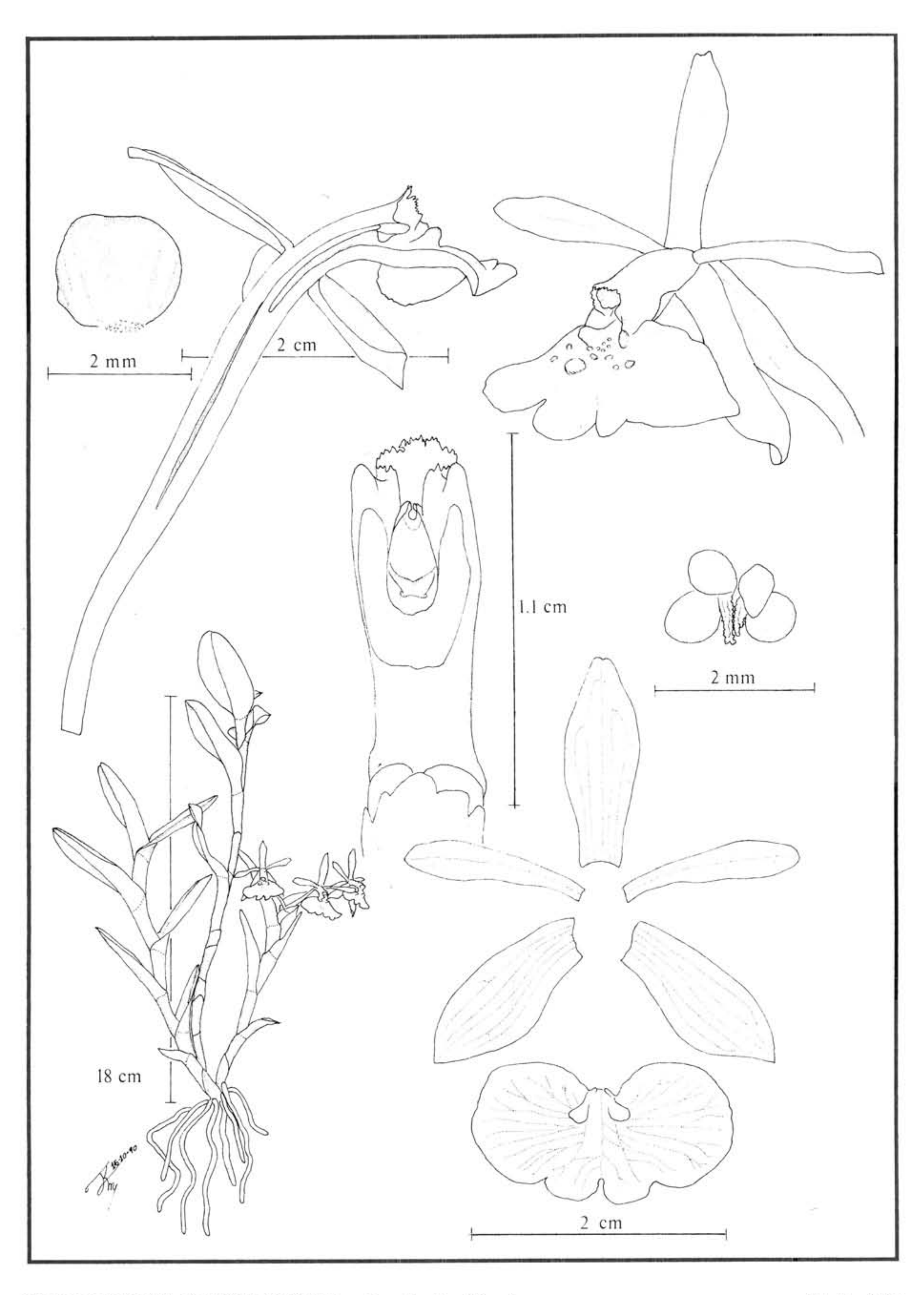


CONSERVATION STATUS: Unknown. The species is apparently very restricted in distribution but does not seem to be locally rare, as it has been picked up in the area by several collectors.

ETYMOLOGY: The name caluerorum honors Carlyle and Jane Luer, who have dedicated much of their lives to the study of the orchids, especially the pleurothallids, for which Carl is well-known.

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Apartado Postal 53-123, 11320 México, D.F., MEXICO



EPIDENDRUM CAMPACCII Hágsater & L. Sánchez **Plate 117**

Text on the reverse side

EPIDENDRUM CAMPACCII Hágsater *et* L. Sánchez, *sp. nov.*

Holotype: BRAZIL: Sao Paulo, Guarulhos, 700 m, prensado 18 junio 1991, *M.A. Campacci sub E. Hágsater 10256*, AMO! (illustration voucher.) Clonotypes: 8 febrero 1990, AMES! MEXU! 9 noviembre 1990, RB!

Epidendro garciae Pabst simile, sed caulibus teretibus, floribus 5-8 successivis, lobis lateralibus labelli semiorbicularibus, columna recta, anthera glabra differt.

Hierba epífita, cespitosa, 11-25 cm de alto. **Raíces** basales, carnosas, 1-2 mm de grosor. **Tallo** sencillo, tipo caña, terete, flexuoso, 6-21 cm largo. **Hojas** 4-9, equidistantes a lo largo del tallo; vaina tubular, lisa, 2-3 cm de largo; lámina ovada, lisa, ápice asimétricamente bilobado, subcoriácea, margen entero, extendido, sin carina dorsal, verde, 2.5-5 x 1.6-2.6 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez. **Bráctea floral** más corta que el ovario. **Flores** 5-8, resupinadas, sucesivas, llegando a estar abiertas todas a la vez, verdes, con aroma a clavel (Dianthus sp.), intenso por la tarde, ligero por la mañana. **Ovario** terete, no ornamentado, inflado longitudinalmente, liso, 22-37 x 3-3.2 mm. **Sépalos** subcoriaceous, glabros, extendidos, libres. **Sépalo dorsal** elíptico, redondeado, márgenes enteros, extendidos, sin carina dorsal, 5-nervado, 14.5-15.4 x 5.5 mm. **Sépalos laterales** oblicuamente elípticos, agudos, márgenes enteros, revolutos, ligeramente carinados, 5-nervados, 14.5-15.4 x 5.5-6 mm. **Pétalos** membranáceos, angostamente oblanceolados, redondeado, márgenes enteros, extendidos, 3-nervados, 11-13.5 x 2.5-2.7 mm. **Labelo** unido a la columna, transversalmente oblongo, trilobado, bicalloso, con gotas de néctar en la base del disco, coriáceo en la parte media, membranáceo hacia los márgenes, 12-12.5 x 19-20 mm; lóbulos laterales semiorbiculares, con el margen entero a ligeramente crenado; lóbulo medio bilobado, con los lóbulos amplia y cortamente redondeados. **Columna** recta, 10.5-11 mm de largo. **Clinandrio** no prominente, entero, irregularmente crenado. **Antera** subesférica, no ornamentada, 4-locular. **Polinios** 4, subiguales, obovoides, lateralmente comprimidos; caudículas suaves y granulosas, semejantes en longitud a los polinios; viscidio viscoso, translúcido. **Rostelo** subapical, hendido. **Nectario** corto, penetrando 1/8 de la longitud del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stem** reed-like, terete. **Leaves** 4-9, ovate, apex unequally bilobed. **Inflorescence** terminal, flowers only once. **Flowers** 5-8, opening in succession to be all open at the same time, resupinate, green, intensely fragrant. **Sepals** subcoriaceous, glabrous, spreading, free. **Dorsal sepal** ovate, rounded, margin entire, spreading. **Lateral sepals** obliquely ovate, acute, margins entire, revolute. **Petals** narrowly oblanceolate, rounded, margins entire, spreading. **Lip** united to the column, transversely oblong, 3-lobed, bicallose, with drops of nectar on the base of the disc; lateral lobes semiorbicular, entire to slightly crenate; midlobe bilobed, lobules shortly and broadly rounded. **Column** straight. **Clinandrium** not prominent, entire, crenate. **Anther** subspherical, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent. **Rostellum** subapical, slit. **Nectary** short, penetrating 1/8 of the ovary.

OTHER SPECIMENS: **BRAZIL: Rio de Janeiro:** Hágsater 10212, AMO! NY! US!

DISTRIBUTION AND ECOLOGY: Know only from Brazil. Epiphyte, at 700 m altitude. Flowering from February to November. The flowers are carnation-scented in the afternoon, more weakly in the morning.

RECOGNITION: Epidendrum campaccii is a member of the E. difforme Jacq. complex, and can be recognized by the of terete stem, 5-8 successive, green flowers, transversely oblong, 3-lobed lip with many small drops of nectar on the base of the disc, semiorbicular lateral lobes, protruding, bilobed midlobe, and straigh column. It is somewhat similar to E. garciae Pabst which has laterally compressed stems, a single large flower, white lip with subelliptic lateral lobes, midlobe not protruding, and arcuate column.



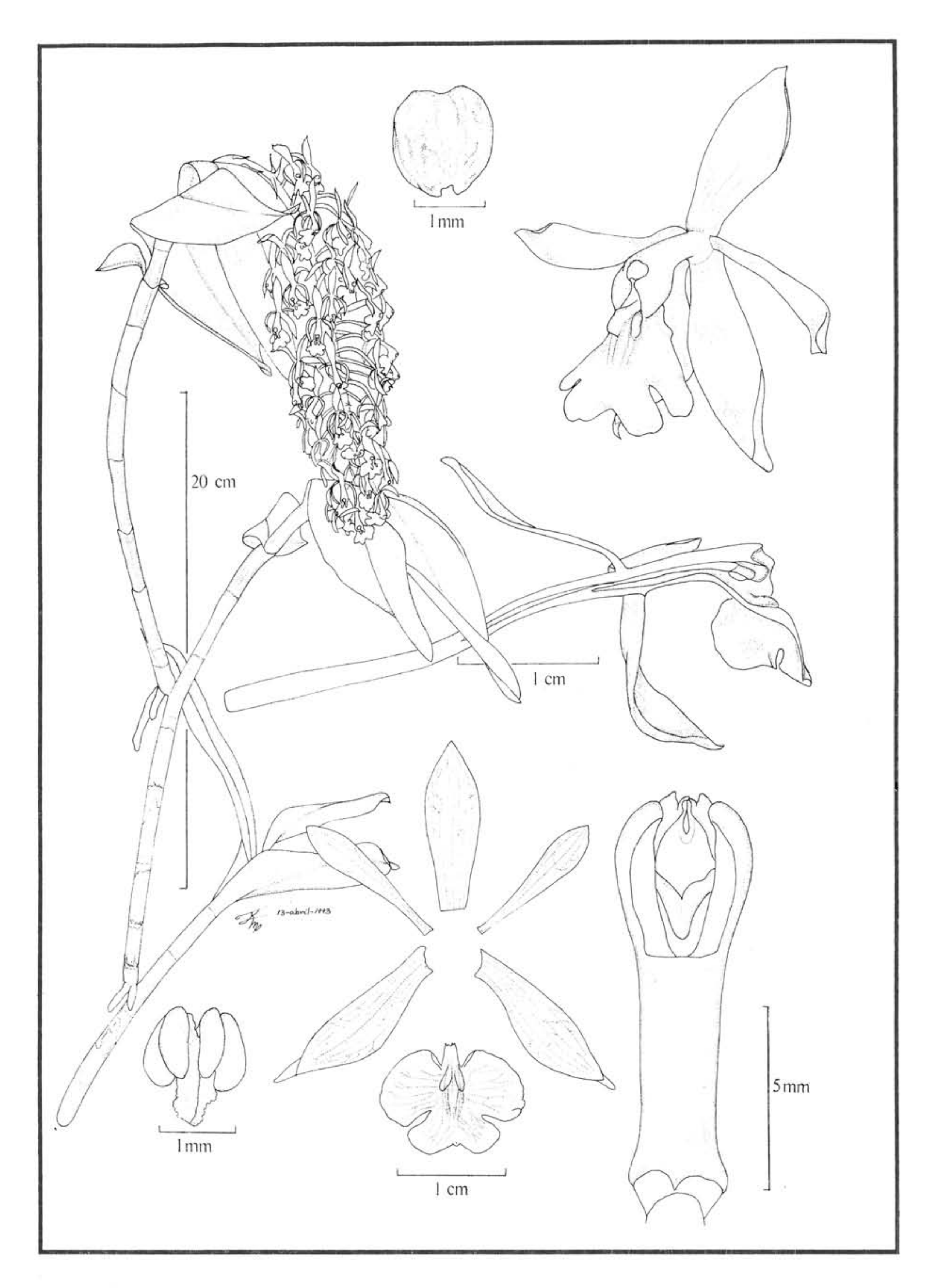
CONSERVATION STATUS: Undetermined.

ETYMOLOGY: This species is dedicated to Marcos Antonio Campacci, who collected the material from which the type specimen was prepared.

Authors: E. Hágsater & L. Sánchez Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM CAMPOSII Hágsater

Text on the reverse side

Plate 118

EPIDENDRUM CAMPOSII Hágsater, *sp. nov.*

Holotype: MEXICO: Oaxaca: 1 km W on brecha of km 180, Oaxaca-Puerto Escondido road, 2030 m, collected January 1976, pressed in cultivation 5 March 1982, *E.W. Greenwood sub Hágsater 4309*, AMO! Clonotypes: 23 April 1979*, AMO! 3 April 1991, MEXU!

Epidendro magnifico Schltr. simile, sed differt sepalis petalisque dilute roseis, labello candido, callis cum carinis lateralibus continuis.

Hierba epífita, de simpodio erecto donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, hasta ca. 100 cm de alto. **Raíces** producidas tanto de la base de la planta como de base de los tallos superiores, carnosas, delgadas, ca. 2-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, hasta 26 cm de largo, 3-6 mm de grosor. **Hojas** 4-5, agrupadas hacia el ápice de cada tallo; vaina tubular, lisa, hasta 3.5 cm de largo; lámina elíptica, ápice bilobado a agudo, margen entero, subcoriácea, lisa, verde, hasta 16 x 4.5 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa (raramente paniculada), arqueada, 7-16 cm de largo; pedúnculo terete, arqueado, no ornamentado, sin espata, con brácteas espaciadas, sin cubrir el pedúnculo, triangulares, acuminadas, de 8-21 mm de largo. **Bráctea floral** de 1/4 del largo del ovario, angostamente lanceolada a triangular, acuminada, 4-15 mm de largo. **Flores** 20-45, simultáneas, resupinadas, con fragancia diurna, dulce; sépalos y pétalos rosa pálido o blanco-rosado, tornándose amarillento con el tiempo, labelo y columna blancos. **Ovario** no inflado, terete, no ornamentado, (25) 34-45 mm de largo. **Sépalos** extendidos, libres, con quilla dorsal apical prominente en los laterales, glabros, carnosos. **Sépalo dorsal** oblanceolado, agudo, márgenes extendidos, 7-nervado, 15-19 x 5-6.5 mm. **Sépalos laterales** oblanceolados, acuminados, márgenes extendidos, 6-7-nervados, 16-20 x 5-6 mm. **Pétalos** incurvados, linear-oblanceolados, obtusos, márgenes extendidos, membranáceos, 3-nervados, 14-17 x 2-2.5 mm. **Labelo** unido a la columna, trilobado, bicalloso, membranáceo, 8-10 mm de largo, 14 mm de ancho entre los lóbulos laterales extendidos; callos continuos con las carinas laterales, carina central roma, llegando hasta la mitad de la lámina; lóbulos laterales dolabriformes; lóbulo medio más pequeño que los laterales y separado de ellos por senos profundos y angostos, bilobado, el seno apical amplio, poco profundo, diminutamente mucronado, márgenes enteros. **Columna** ligeramente arqueada, delgada, 11-12 mm de largo. **Clinandrio** no prominente, margen entero. **Antera** subesférica, con una quilla angosta y roma al frente, 4-locular. **Polinios** 4, semiobovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, algo más largas que polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** obsoletos. **Nectario** poco profundo, penetrando 1/4 del ovario, liso interiormente. **Cápsula** no vista.

Epiphytic **herb** where the new stem is produced from the middle of the previous stem. **Roots** fleshy, slender, from the base of the stems. **Stem** straight, reed-like. **Leaves** 4-5, near the apex of the stem, elliptic, apex bilobed to acute. **Inflorescence** terminal, from the mature stem, arcuate, racemose (rarely paniculate), flowers only once. **Floral bracts** narrowly lanceolate to triangular, acuminate, about 1/4 as long as the ovary. **Flowers** 20-45, simultaneous, resupinate, sweetly fragrant during daytime, sepals and petals pale pink, turning yellowish with age, lip and column white. **Sepals** spreading, oblanceolate, acute to acuminate, the laterals with a prominent dorsal-apical keel, 7-veined. **Petals** incurved, linear-oblanceolate, obtuse, 3-veined. **Lip** united to the column, 3-lobed, bicallose, with 3 central keels, the calli continuous with the two outer keels, the central keel running down to the middle; lateral lobes dolabriform; midlobe smaller than the laterals and separated from them by deep, narrow sinuses, bilobed, the apical sinus shallow, wide, minutely mucronate. **Column** slightly arcuate, thin. **Clinandrium** obsolete, margin entire. **Anther** subspherical, with a central keel at the front, 4-celled. **Pollinia** 4, semiobovoid, laterally compressed, subequal; caudicles soft and granulose; viscidium semiliquid. **Rostellum** apical, slit. **Nectary** shallow, penetrating 1/4 of the ovary.

OTHER SPECIMENS: MEXICO: Oaxaca: Campos et al. 1274, AMO! MEXU. Campos & Torres 1549, AMO! MEXU. Fernández sub Hágsater 11219, AMO! (illustration voucher.) Toriz & Campos 819, AMO! MEXU.

*NOTE: This specimen bears freak flowers with the midlobe of the lip entire and triangular, being otherwise normal in size and coloration.

DISTRIBUTION AND ECOLOGY: Apparently endemic to southern Oaxaca, Mexico, on the crest of the Sierra Madre del Sur. Epiphyte on oaks in tall oak-pine cloud forest, at 1990-2220 m altitude. Flowering from February to April.

RECOGNITION: The very pale pink and white flowers with two white calli on the lip, which are continuous with two lateral low keels, characterize E. camposii. Epidendrum magnificum Schltr. has deep pink to deep purple flowers and is found only in Guerrero. Epidendrum greenwoodii Hágsater grows sympatrically with E. camposii, but the flowers are orange yellow and the lip is differently shaped. Epidendrum nicaraguense Scheeren ex Hágsater, on the other hand, has light pink flowers with bright, deep yellow, subglobose calli.



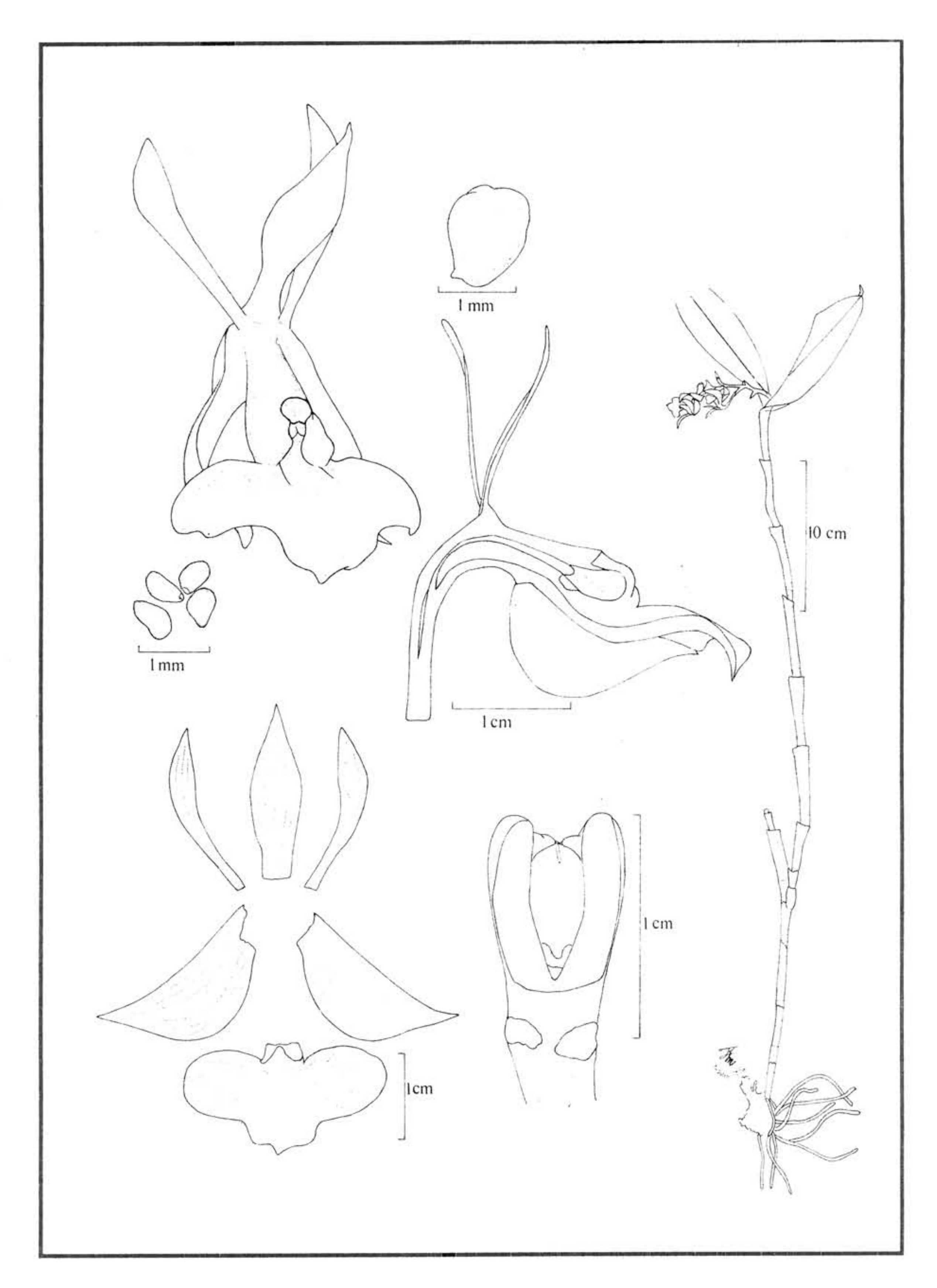
CONSERVATION STATUS: Undetermined. The species appears to be restricted to a small area in southern Oaxaca, but there are no accurate data available concerning either the size of the populations or possible threatening factors.

ETYMOLOGY: Named in honor of Alvaro Campos Villanueva of the Herbario Nacional de México (MEXU), presently engaged in the Flora de Oaxaca project, and collector of the species.

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EPIDENDRUM CARCHIENSE Hágsater & Dodson

Text on the reverse side

Plate 119

EPIDENDRUM CARCHIENSE Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Carchí: Tulcán-Maldonado, 1500-2800 m, 10 September 1991, *Hirtz et al. 5641.*, RPSC! (illustration voucher.)

Epidendrum yambalensi Hágsater & Dodson simile, sed petalis 3-nervibus, labello ecalloso, ecarinato, duabus prominetiis parum incrassatis, lobo mediano duplo latiore quam longiore, clinandrio obsoleto.

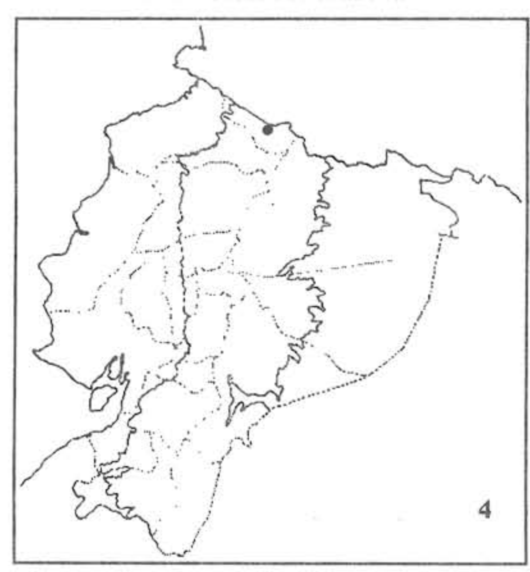
Hierba epífita, de simpodio erecto donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, 50-90 cm de alto. **Raíces** originadas en la base de la planta y ocasionalmente en la base de un tallo superior, carnosas, 1-2 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 17-30 cm de largo, 3-5 mm de grosor. **Hojas** 2, en el ápice de cada tallo; vaina tubular, lisa, hasta 5 cm de largo; lámina articulada, elíptica, aguda, margen entero, herbácea, lisa, verde, 10-12 x 3 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, racemosa, arqueada, sin espata, sin brácteas, 6 cm de largo; raquis lateralmente comprimido, en zig-zag, no ornamentado. **Bráctea floral** de un poco menos de la mitad del largo del ovario, triangular, acuminada, 3-6 mm de largo. **Flores** 6-7, simultáneas, resupinadas, color verde olivo. **Ovario** no inflado, terete, 10-16 mm de largo. **Sépalos** extendidos, libres, con quilla dorsal inconspicua en los laterales, glabros, membranáceos. **Sépalo dorsal** angostamente elíptico, agudo, márgenes extendidos, 5-nervado, con dos nervaduras secundarias a los lados del nervio principal, 16-20 x 6 mm. **Sépalos laterales** angostamente ovados, falcados, acuminados, márgenes extendidos, 5-nervados, los nervios laterales bifurcados, 15-20 x 6-8.5 mm. **Pétalos** extendidos, ligeramente atrás del sépalo dorsal, angostamente oblanceolados, falcados, agudos, márgenes extendidos, membranáceos, 3-nervados, los nervios laterales ramificados, 16-19 x 3 mm. **Labelo** unido a la columna, trilobado, ecalloso pero con un par de engrosamientos bajos, sin carinas, carnoso, base subcordada, 12 x 23 mm; lóbulos laterales subovados; lóbulo medio más pequeño que los laterales, trapezoide, dos veces mas ancho que largo, apiculado, márgenes enteros. **Columna** recta, delgada, 11-13 mm de largo incluyendo el clinandrio. **Clinandrio** obsoleto, margen entero. **Antera** ovoide, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas aparentemente muy cortas. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/4 del largo de la cavidad estigmática. **Nectario** penetrando 1/3 del ovario, liso interiormente. **Cápsula** no vista.

Epiphytic herb in which each new stem is produced from a middle internode of the previous stem. **Stems** straight, reed-like. **Leaves** elliptic, acute, at the apex of the stem. **Inflorescence** terminal, flowers only once, racemose, arcuate. **Flowers** simultaneous, resupinate, olive green. **Dorsal sepal** membranaceous, elliptic, acute, 5-veined with one secondary vein at each side of the main vein. **Lateral sepals** narrowly ovate, falcate, acuminate, 5-veined, lateral veins bifurcate. **Petals** membranaceous, narrowly oblanceolate, falcate, acute, 3-veined, lateral veins branched. **Lip** united to the column, 3-lobed, ecallose but with two small thickenings, without keels, base cordate; lateral lobes subovate; midlobe trapezoid, twice as wide as long, apiculate. **Column** straight. **Clinandrium** obsolete, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles apparently very short. **Nectary** penetrating 1/3 of the ovary.

DISTRIBUTION AND ECOLOGY: Known only from the type, from Ecuador, and possibly Colombia. On trees. Flowering in September.

RECOGNITION: Epidendrum carchiense is recognized by the successive stems, each produced from a middle internode of the previous stem, the short, 6-7 flowered raceme and the membranaceous, olive green flowers with 3-lobed lip which is somewhat cordate at the base, without calli or keels and with the midlobe trapezoid, half as long as wide, apiculate, and the obsolete clinandrium. Epidendrum yambalense Hágsater & Dodson is very similar but has the midlobe of the lip as long as wide, the lip with branching, low keels and a pair of basal calli, and the clinandrium forms an obconical cavity. Epidendrum morganii Dodson & Garay is also related, but it has a cordiform lip. Epidendrum lechleri Rchb. f. has a reniform lip and wider petals.

CONSERVATION STATUS: Unknown.

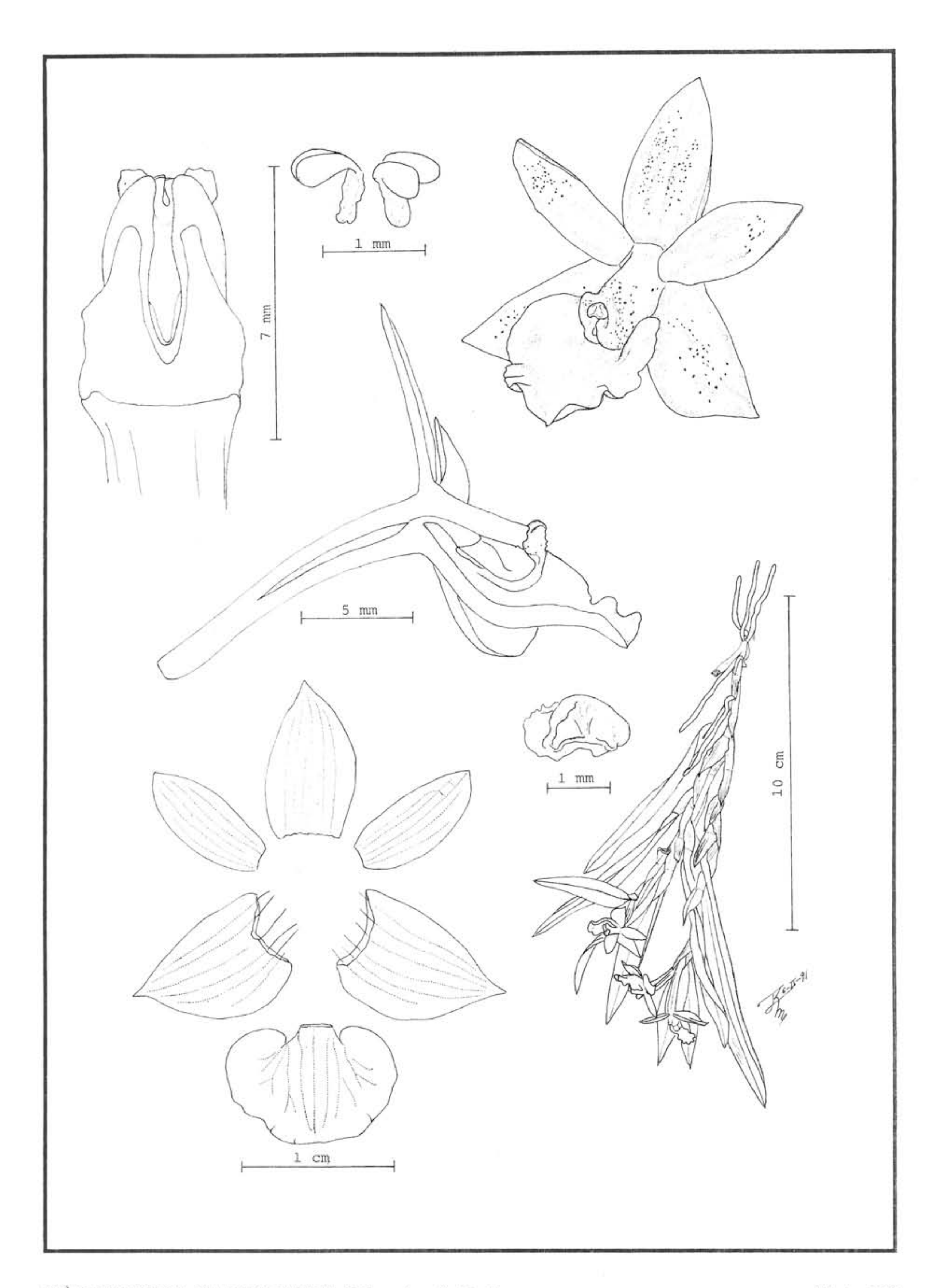


ETYMOLOGY: The name refers to the Province of Carchí, Ecuador, on the border with Colombia, where the species was collected.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM CARMELENSE Hágsater & Dodson

Text on the reverse side

Plate 120

EPIDENDRUM CARMELENSE Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Prov. Sucumbíos: El Mirador, 12 km from Playón de San Francisco, 3,360 m, 9 julio 1990, *E. Hágsater 10612, C. H. Dodson, D. Rubio & N. Revelo*, RPSC! Isotypes: AMO! S! Clonotype: 7 febrero 1991, AMO! (illustration voucher).

Epidendro garayi Løjtnant simile, sed differt vaginis basalibus pseudobulborum lamina foliari carentibus.

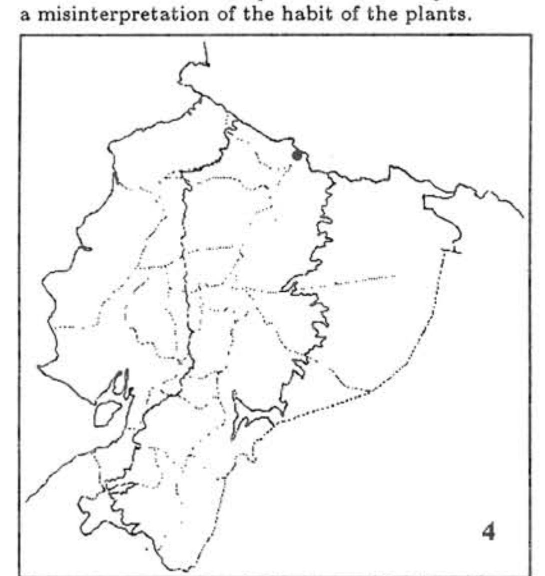
Hierba epífita, colgante, con crecimiento sucesivo lateral, 12-48 cm de largo, en ocasiones formando **grandes masas**; una planta grande parece cespitosa, fastigiado-colgante, cada rama siendo simpodial, colgante y ocasionalmente ramificada. **Raíces** solo del rizoma de los seudobulbos basales, raramente de otros rizomas viejos, filiformes, 1 mm de grosor. **Tallo** colgante, unifoliado en el ápice, 14-36 mm de largo total sin la hoja, constituido por cuatro entrenudos, uno corto y tres largos, el apical (cuarto) engrosado formando un seudobulbo angostamente ovoide, 6-12 x 2.5-4.5 mm; los tallos nuevos son producidos del nudo basal del seudobulbo anterior; tallo cubierto por vainas rígidas, sin lámina foliar, originándose una de cada nudo, ovadas, agudo-acuminadas, conduplicadas, 5-18 x 4-10 mm. **Hoja** apical única, linear-lanceolada, aguda, dorsalmente quillada, coriácea, margenes revolutos, 3.5-8.5 x 0.5-1 cm, verde con tintes morados en la base y el envés. **Inflorescencia** terminal, del seudobulbo maduro, florece una sola vez, péndula; pedúnculo con una espata pequeña, de ca. 2.5 mm de largo. **Flores**1-2, colgantes, de color verdoso a ocre con puntos rojizos sobre la columna, los sépalos y los pétalos; fragancia diurna a miel-almizcle. **Ovario** terete, no inflado, 2.7 mm largo. **Sépalos** ovados, agudos, carnosos, 5-nervados, el dorsal 10 x 5 mm, los laterales oblicuos, acuminados, 10 x 6.5 mm. **Pétalos** ovado-elípticos, obtusos, ligeramente falcados, carnosos, 5-nervados, 8.5 x 3.5 mm. **Labelo** unido a la columna, entero, reniforme, carnoso, ecalloso, con una quilla central baja, roma, base cordada, margen apical sinuado, 7 x 11 mm. **Columna** recta, corta, gruesa, 7 mm de largo. **Clinandrio** obcónico, carnoso, margen eroso. **Antera** reniforme, con una quilla roma al frente. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas suaves y granulosas, de longitud semejante a la de los polinios; viscidio semilíquido. **Rostelo** apical, hendido. **Cavidad estigmática** muy amplia, lóbulos laterales largos y delgados. **Nectario** muy poco profundo, sin penetrar más allá del perianto. **Cápsula** no vista.

Epiphytic, pendent, sometimes branching **herb**. **Stem** 1-leaved at the apex, formed by 4 internodes, the first one short, the others elongate, the last one forming a narrowly ovoid pseudobulb; new stem originating from the base of the pseudobulb; each node of the stem with an ovate, acute-acuminate, conduplicate, bladeless leaf sheath. **Leaf** narrowly lanceolate, acute. **Inflorescence** terminal, flowers only once, pendent. **Flowers** 1-2, greenish to ochre dotted with reddish, with a honey-musk fragrance. **Sepals** ovate, acute, 5-nerved. **Petals** ovate-elliptic, obtuse. **Lip** united to the column, entire, reniform, fleshy, ecallose, with a central, low keel, base cordate, margins sinuate. **Column** straight. **Clinandrium** obconical, fleshy, margin erose. **Pollinia** 4; obovoid, laterally compressed; caudicles soft and granulose; viscidium semiliquid. **Rostellum** apical, slit. **Stigmatic cavity** very large, lateral lobes long and narrow. **Nectary** shallow, not penetrating beyond the perianth.

OTHER SPECIMENS: ECUADOR: Sucumbíos: Hágsater et al. 10613, RPSC! AAU! AMO! GB! K! MO! QCNE! RPSC! S!

DISTRIBUTION AND ECOLOGY: Known only from the type locality, but suspected to exist in similar habitats in other parts of the same area of the Eastern Andes in Ecuador and in Colombia. On tree tops in tall, wet cloud forest at 3360 m altitude. Flowering from February to April.

RECOGNITION: Epidendrum carmelense is closely related to E. garayi Løjtnant. Both species can be recognized by the pendent plants with the stems thickened apically into small pseudobulbs, but E. carmelense has a single leaf at the apex of the pseudobulb and the lower part of the stem is covered by bladeless sheaths, while in E. garayi the sheaths bear leaf blades identical to the apical leaf. These species have been incorrectly described as having lateral inflorescence, due to a misinterpretation of the habit of the plants.

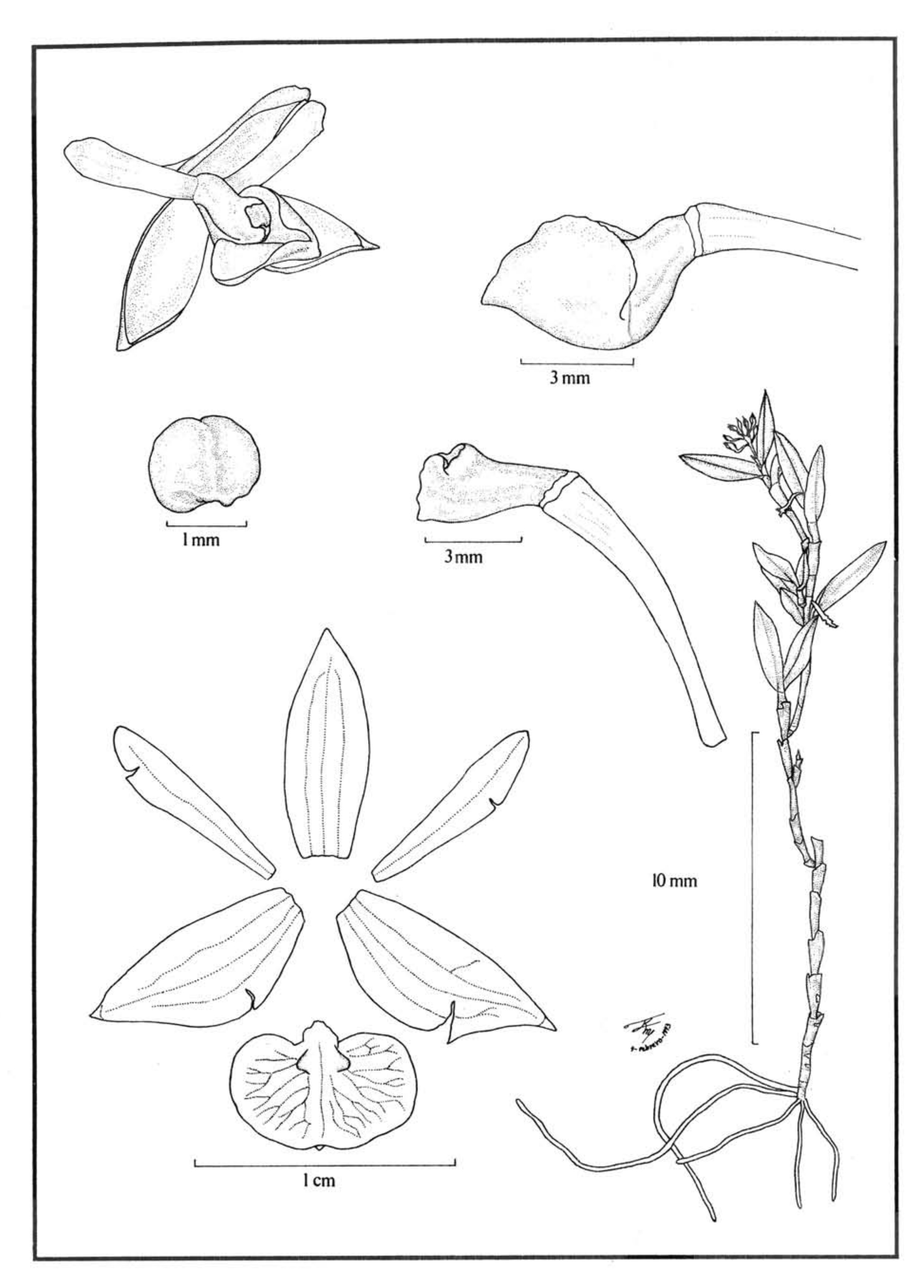


CONSERVATION STATUS: Vulnerable. The forests where this species grows, although at quite high altitude just below the páramo, are being cut for lumber and agriculture and are part of an endangered life-zone in Ecuador.

ETYMOLOGY: In reference to the area of El Carmelo, where the species was collected.

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EPIDENDRUM CHIMANTENSE Hágsater & Carnevali

Text on the reverse side

Plate 121

EPIDENDRUM CHIMANTENSE Hágsater *et* Carnevali, *sp. nov.*

Holotype: VENEZUELA: Estado Bolívar; Chimantá Massif, upper mixed *Clusia-Magnolia* forest above SE facing upper shoulder on slope leading to summit of Apácara-tepui, 2200-2300 m, June 20, 1953, *J. A. Steyermark 75836*, NY! (illustration voucher.) Isotypes: AMES! VEN!

Epidendro nephroglosso Schltr. simile, sed differt vaginis foliorum striis purpureis, foliis ad 1 cm latis, floribus successivis, bracteis multo minoribus, petalis anguste oblanceolatis, et labello subreniformi, leviter emarginato, apiculato.

Hierba epífita, de simpodio erecto donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, 30 c más cm de alto. **Raíces** solamente de la base de la planta, carnosas, gruesas, 1-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 4-10 x 0.2-0.5 cm. **Hojas** 3-4, agrupadas hacia el ápice de cada tallo; vaina tubular, estriada, amoratada, 0.8-2.5 cm de largo; lámina angostamente elíptico-lanceolada, aguda, margen entero, subcoriácea, lisa, haz verde brillante, envés verde pálido, 1.8-7 x 0.5-1 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, nutante, 2-4 cm de largo, sin espata, sin brácteas o con una bráctea acuminada de ca. 3 mm de largo; raquis no ornamentado. **Bráctea floral** mucho más corta que el ovario, triangular, aguda, 1-2 mm de largo. **Flores** 8-15, sucesivas, 2-4 abiertas a la vez, resupinadas, ovario color lavanda, sépalos y pétalos color lavanda pálido, el margen amarillento, labelo amarillento, columna blanca; fragancia no registrada. **Ovario**, no inflado, terete, no ornamentado, 8-12 mm de largo. **Sépalos** extendidos, libres, con quilla dorsal inconspicua, glabros, membranáceos. **Sépalo dorsal** elíptico, agudo, márgenes extendidos, 3-nervado, 9-10 x 3-4 mm. **Sépalos laterales** obovados, agudos, algo oblicuos, márgenes extendidos, 3-nervados, 9-10 x 3-4 mm. **Pétalos** extendidos, angostamente oblanceolados, obtusos, 1-nervados, 8 x 1.5-2 mm. **Labelo** unido a la columna, entero, subreniforme, ligeramente emarginado, apiculado, márgenes enteros, bicalloso, 3.5-6 x 6.5-9 mm. **Columna** recta, delgada, arqueada en la base, con un lóbulo redondeado a cada lado del ápice, 3-4 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** subglobosa. **Nectario** poco profundo, penetrando 1/3 del ovario. **Polinario y cápsula** no vistos.

Epiphytic herb, where the new stem is produced from the middle of the previous stem. **Roots** fleshy, from the base of the plant only. **Leaves** 3-4, narrowly elliptic-lanceolate, subcoriaceous; sheaths striate, dull purple. **Inflorescence** terminal, from the mature stem, nodding, racemose. **Flowers** 8-15, successive, 2-4 open at the same time, resupinate, sepals and petals "pale lavender with fulvous-yellow edge, lip pale fulvous-yellow, column white". **Sepals** obovate to elliptic, acute, 3-veined. **Petals** narrowly oblanceolate, obtuse, 1-veined. **Lip** united to the column, entire, subreniform, somewhat emarginate, apiculate, bicallose. **Column** straight, arcuate at the base, with a rounded lobe at each side of the apex. **Clinandrium** obsolete, entire. **Anther** subglobose. **Nectary** penetrating 1/3 of the ovary.

OTHER SPECIMENS: VENEZUELA: Bolívar: Dunsterville & Dunsterville 1172, AMES! VEN! Fernández 3335, MYF! VEN! Huber et al. 8775 , MO! VEN! Steyermark 128067, VEN! S128390, VEN! Steyermark et al. 104603, VEN!

DISTRIBUTION AND ECOLOGY: Known only from the eastern section of the Venezuelan Guayana, from the Serranía de Chimantá, where first collected, La Escalera-Cerro Venamo general area, and the vicinity of Urimán, at elevations of (410-) 1500 to 2300 m. It has been collected in flower in January, June and September.

RECOGNITION: Epidendrum chimantense belongs to the E. arbuscula Lindl. group and can be recognized by the purple-tinged leaf sheaths, the narrow, elliptic-lanceolate leaves, and the successive, small flowers with subreniform, somewhat emarginate, apiculate lip. The species has been confused with Epidendrum lechleri Rchb. f., a species native to Peru which has sepals 13 mm long and entire lip. Epidendrum nephroglossum Schltr. has very prominent floral bracts, sepals 11-12.5 mm long and the lip is reniform, 7 x 13 mm, with the base cordate.



COMMENTS: This species was illustrated, as E. lechleri Rchb. f., in Foldats (1970), whose fig. A was made from part of the NY specimen here designated as the holotype of E. chimantense (the other part of the holotype is illustrated here), while fig. B represents a different species, E. foldatsii Hágsater & Carnevali. The description provided by Foldats is a combination of both species and some data were taken from the description given by Schweinfurth (1944) for E. nephroglossum. Epidendrum chimantense was also illustrated as E. lechleri by Schweinfurth (1962); the plate, prepared by Elmer W. Smith, was prepared from the isotype of E. chimantense at AMES.

CONSERVATION STATUS: Not threatened. Most of the known populations of this species are within the boundaries of the Parque Nacional Canaima and are hence well preserved; moreover, the tepuis where it is found are not readily accessible except by helicopter.

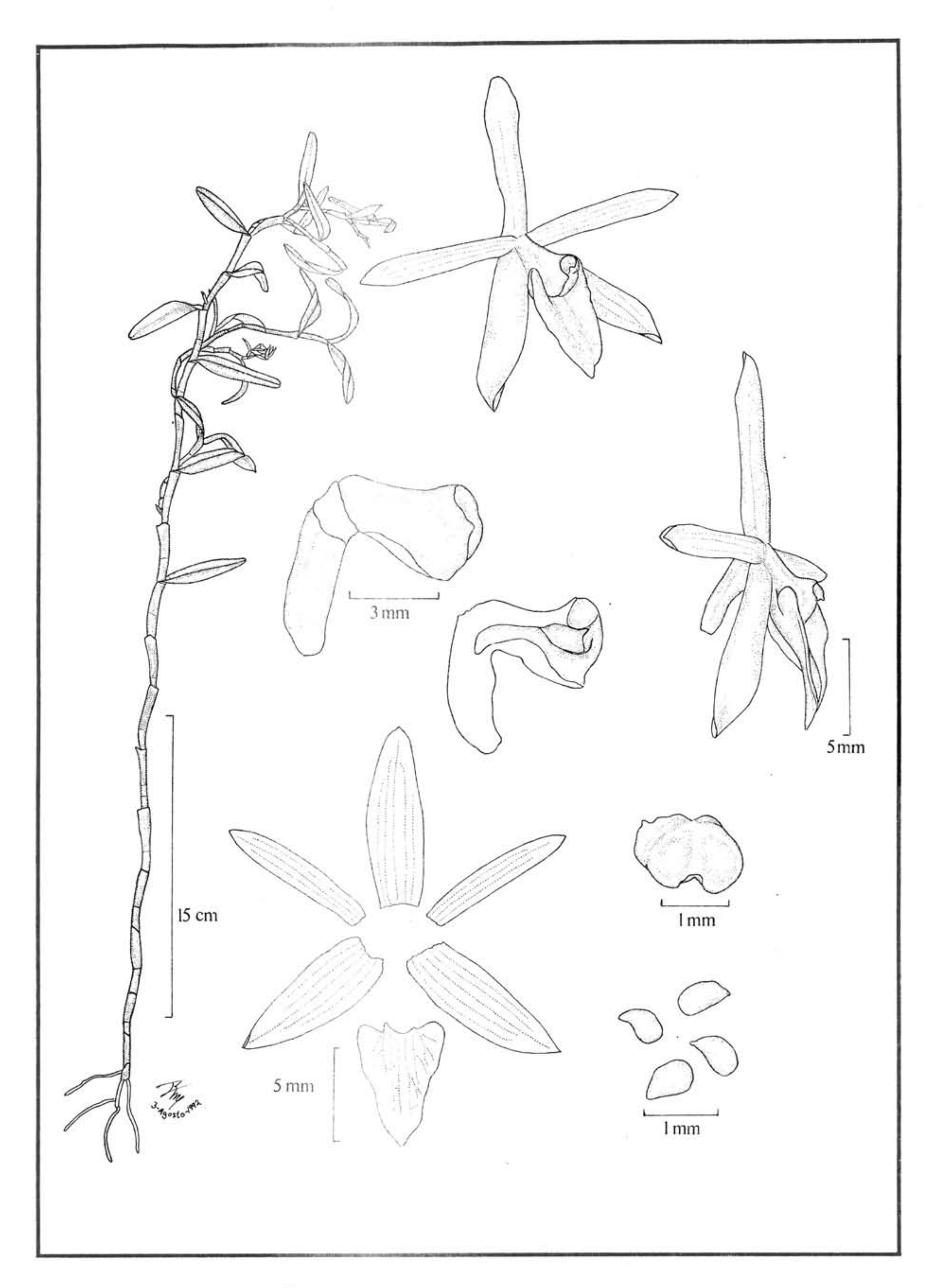
ETYMOLOGY: Named after the Serranía de Chimantá, in the Venezuelan Guayana.

REFERENCES: Foldats, E. 1970. Orchidaceae, in T. Lasser (ed.), Flora de Venezuela 15 (3): 297-299; Schweinfurth, C. 1944. Notes on Tropical American orchids II. Bot. Mus. Leafl. 11(8): 217-248; Schweinfurth, C. 1962. Novelties in the orchid flora of the Guyana Highlands II. Bot. Mus. Leafl. 20(1): 17, pl. VI; Schweinfurth, C. 1967. Orchidaceae of the Guyana Highlands. Memoirs of the New York Botanical Gardens 14(3): 139-140.

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EPIDENDRUM CHIRRIPÖENSE Hágsater

Text on the reverse side

Plate 122

EPIDENDRUM CHIRRIPÖENSE Hágsater, *sp. nov.*

Holotype: COSTA RICA: Prov. San José-Cartago; Cordillera de Talamanca, Cerros Cuercí, Parque Nacional Chirripó, 3200 m, 16 September 1983, *G. Davidse 24815*, AMO! (illustration voucher.) Isotypes: AMES! CR, MO, SEL!

Epidendro anoglossoidi Ames & C. Schweinf. simile, sed inflorescentia biflora, rachi filiformi, labello triangulo, cordato, ecalloso differt.

Hierba epífita, erecta, ramificada, 20-45 cm de alto. **Raíces** producidas en la base del tallo principal, carnosas, 1 mm de grosor. **Tallos** ramificados, tipo caña, más o menos flexuosos, lateralmente comprimidos, el tallo principal hasta 45 cm de alto, 2-5 mm de grosor; las ramas más pequeñas, 4-10 cm de largo, 1.5-3.5 mm de grosor, y estas a su vez ramificadas, con ramas de 1-7 cm de largo. **Hojas**, numerosas, distribuidas a lo largo de los tallos, ausentes o escasas en los tallos maduros; vaina tubular, rugosa, algo estriada al envejecer, hasta 2.5 x 0.5 cm; lámina elíptico-oblonga, ápice desigualmente bilobado, coriácea; las láminas de las hojas del tallo principal más grandes, hasta 4.5 x 1 cm, las de las ramas algo más pequeñas. **Inflorescencia** terminal en el tallo principal y las ramas, racemosa, arqueado-colgante, florece una sola vez, 1.5-3 cm de largo; pedúnculo sin espata, ocasionalmente con una bráctea semejante a las brácteas florales; raquis en zig-zag, filiforme, terete. **Bráctea floral** conduplicada, prominente, de longitud semejante a la del ovario, ovada, dorsalmente carinada, 5-7 mm de largo. **Flores** generalmente 2, simultáneas, alternas, fragancia no registrada, color "verde-pardo o amarillento, labelo amarillo-verdoso". **Ovario** terete, 4 mm de largo. **Sépalos** extendidos, lanceolados, agudos, 5-nervados, con una quilla dorsal-apical, 9-10 x 3.5 mm. **Pétalos** extendidos o algo reflexos, linear-lanceolados, agudos, trinervados, 9 x 1.5 mm. **Labelo** unido a la columna, entero, triangular, cordado, agudo, ecalloso, 6.5 x 5 mm. **Columna** inflexa en la base y recurvada en el ápice, gruesa, 4 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** obreniforme, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas aparentemente muy cortas; viscidio no visto. **Rostelo** hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** poco profundo, sin penetrar más allá del perianto. **Cápsula** no vista.

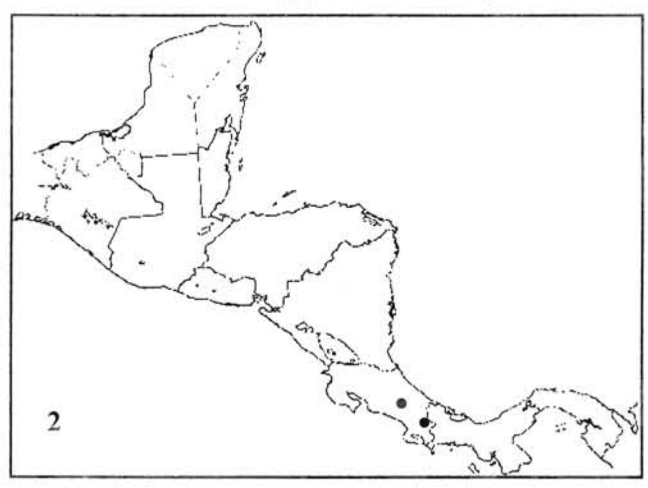
Epiphytic, erect, branching **herb**. **Roots** arising from the base of the main stem, fleshy. **Stem** branching, somewhat flexuous. **Leaves** distributed along the stem; sheath tubular, rugose; blade elliptic-oblong. **Inflorescence** terminal, from stems and branches, arcuate, usually 2-flowered, rachis filiform, zigzag. **Flowers** "brownish-green or greenish-yellow". **Sepals** spreading, lanceolate, acute, 5-veined. **Petals** linear-lanceolate, acute, 3-veined. **Lip** united to the column, entire, triangular, cordate, acute, ecallose. **Column** stout, sharply inflexed at the base and slightly recurved near the apex. **Clinandrium** obsolete. **Anther** obreniform, 4-celled. **Pollina** 4; caudicles apparently very small. **Rostellum** slit. **Nectary** very shallow, not penetrating beyond the perianth.

OTHER SPECIMENS: COSTA RICA: Puntarenas: Davidse et al. 23912, AMO! CR! K! MO! SEL!

DISTRIBUTION AND ECOLOGY: Known only from Costa Rica, on the continental divide in the Cordillera de Talamanca, lower limit of páramo (Chusquea-Hypericum-ericad shrub) near the upper limit of oak forest; epiphyte in forest at around 3000-3200 m altitude. Flowering in August and September.

RECOGNITION: Epidendrum chirripoënse belongs to the E. ramosum Jacq. group within the E. rugosum Ames complex. It is closely related to E. anoglossoides Ames & C. Schweinf., and both share the erect, branching habit, the raceme produced from the apex of short branches, and the zigzag rachis. However, E. chirripoënse can be easily distinguished from E. anoglossoides by the filiform rachis and the short, 2-flowered inflorescence. The flowers are very similar to those of E. mixtum Schltr., a highland species from Mexico and Guatemala, and those of E. mixtoides Hágsater & Dodson, a lowland species from Ecuador, but the latter two have more flowers, terete stems, and plants considerably larger and stouter.

CONSERVATION STATUS: Undetermined. The habitat at and around the type locality is protected by National Park status. There is no collecting pressure and the species is of no horticultural interest.

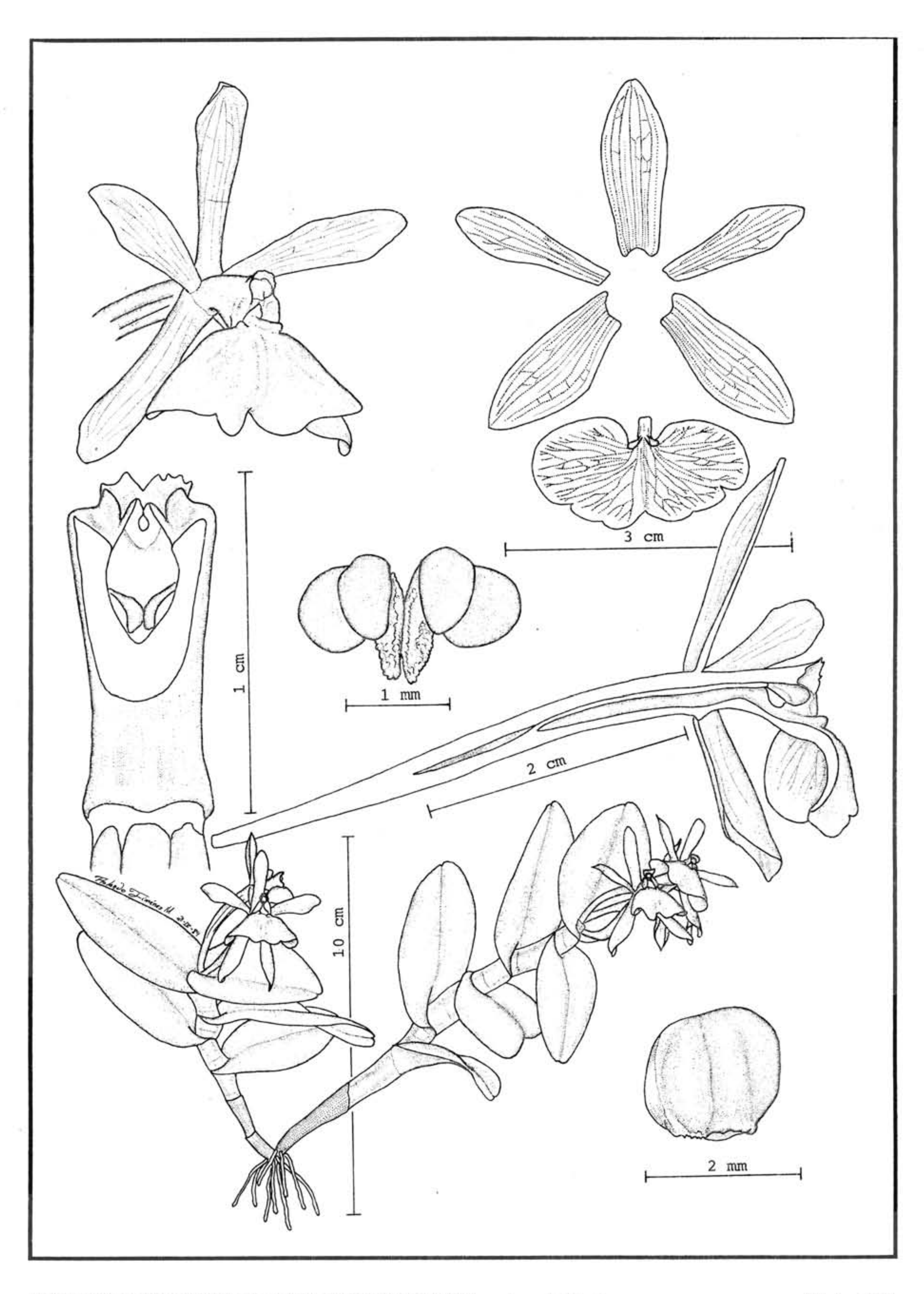


ETYMOLOGY: In reference to the Parque Nacional Chirripó, the largest of the Costa Rican national parks, which covers great part of the Cordillera de Talamanca in eastern Costa Rica.

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EPIDENDRUM CHOGONCOLONCHENSE Hágsater & Dodson **Plate 123**

Text on the reverse side

EPIDENDRUM CHOGONCOLONCHENSE Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Guayas: Cantón Santa Elena: Cordillera Chogón-Colonche, 200 m, colectado 18 noviembre 1988, prensado en cultivo 24 octubre 1991, *P. Santiesteban sub E. Hágsater 9590*, AMO! Clonotypes: 20 octubre 1989, AMES! 30 mayo 1990, ENCB! 3 septiembre 1990, IBUG! 17 diciembre 1990, K! 28 octubre 1991, AMO! 24 marzo 1992, SEL! 29 abril 1992, RPSC! US!

Epidendro romanii Hágsater & Dodson simile, sed differt caulibus aliquantum lateraliter compressis, floribus 2, labello reniformi, margine supra medio utrinque inciso, et apice emarginato.

Hierba epífita, cespitosa, 13.5-21 cm de alto incluyendo la inflorescencia. **Raíces** basales, carnosas, 0.7-1 mm de grosor. **Tallo** sencillo, algo comprimido lateralmente, flexuoso, 9.5-16 cm de largo. **Hojas** 4-8, equidistantes a lo largo del tallo; vaina lateralmente comprimida, lisa; lámina coriácea, ovada, ápice bilobado, margen entero, extendido, ligeramente carinada, verde claro, 3-7.2 x 1.2-3.2 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, sésil. **Bráctea** floral mucho más corta que el ovario. **Flores** 2, simultáneas, resupinadas, verde claro, con fragancia afrutada. **Ovario** no inflado, terete, no ornamentado, 30-33 mm de largo. **Sépalos** subcoriáceos, extendidos, libres, glabros. **Sépalo dorsal** obovado, redondeado, márgenes enteros, ligeramente revolutos, 5-nervado, 21 x 6 mm. **Sépalos laterales** obovados, agudos, márgenes enteros, ligeramente revolutos, 5-nervados, 21 x 6.5 mm. **Pétalos** subcoriáceos, oblanceolados, redondeados, márgenes enteros, extendidos, 3-nervados, 20 x 2.5 mm. **Labelo** unido a la columna, entero, reniforme, bicalloso, los callos pequeños, divergentes, los márgenes con una incisón aguda arriba de la mitad, ápice emarginado, 10-12 x 20 mm. **Columna** recta, 10 mm de largo. **Clinandrio** corto, entero, margen crenulado. **Antera** semiesférica, no ornamentada, 4-locular. **Polinios** 4, subiguales, obovoides, lateralmente comprimidos; caudículas suaves y granulosas, algo más largas que los polinios; viscidio viscoso, translúcido. **Rostelo** subapical, hendido. **Nectario** profundo, penetrando la mitad del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stems** reed-like, laterally compressed. **Leaves** ovate-lanceolate, apex bilobed, coriaceous, green. **Inflorescence** terminal, flowers only once, sessile. **Flowers** 2, simultaneous, resupinate, pale green, fragrant. **Sepals** subcoriaceous, glabrous, free, spreading. **Dorsal sepal** obovate, rounded, margins entire, revolute. **Lateral sepals** ovate, acute, margins entire, slightly revolute. **Petals** subcoriaceous, oblanceolate, margins entire, spreading. **Lip** united to the column, entire, reniform, bicallose, the calli small and divergent, the margins notched above the middle, the apex emarginate. **Column** straight. **Clinandrium** not prominent, entire, margin crenulate. **Anther** subspherical. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent. **Rostellum** subapical, slit. **Nectary** deep, penetrating half the ovary.

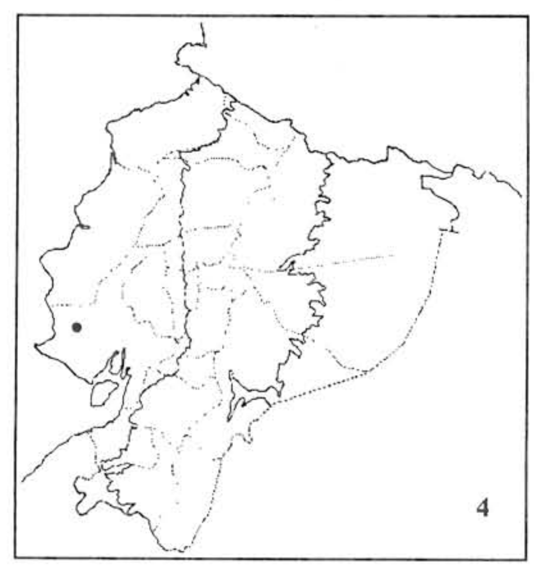
OTHER SPECIMENS: ECUADOR: Guayas: Santiesteban sub Hágsater 9589, AMO! (illustration voucher.) NY! P!

DISTRIBUTION AND ECOLOGY: Known only from hill tops of the Chogón-Colonche range in western Ecuador. Epiphyte in forest at 200 m altitude. Flowering apparently throughout the year.

RECOGNITION: Epidendrum chogoncolonchense is a member of the E. difforme Jacq. complex and is similar to E. romanii Hágsater & Dodson, but it can be recognized by the somewhat laterally compressed stems, two simultaneous, fragrant flowers, and reniform lip marginally notched above the middle and emarginate at the apex.

CONSERVATION STATUS: Undetermined. Probably common in western Ecuador.

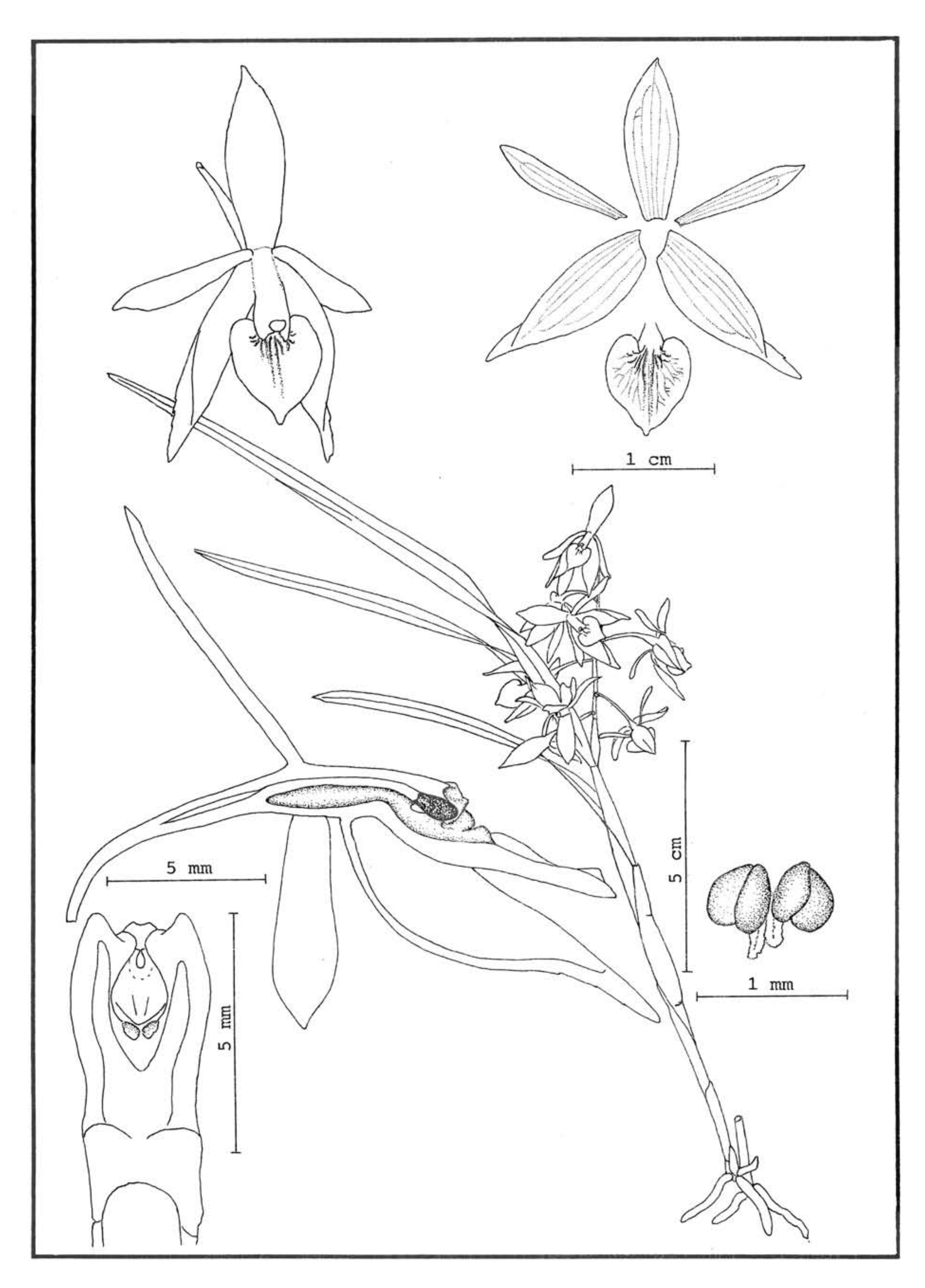
ETYMOLOGY: The epithet chogoncolonchense refers to the Cordillera Chogón-Colonche, in western Ecuador, where the species was found.



Authors: E. Hágsater & C.H. Dodson   Ilustrator: R. Jiménez   Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM COSTANENSE Hágsater & Carnevali

Text on the reverse side

Plate 124

EPIDENDRUM COSTANENSE Hágsater *et* Carnevali, *sp. nov.*

Holotype: VENEZUELA: Estado Aragua: Tiara, preparado de material cultivado 2 marzo 1982, *L. Latta V76-7 sub E. Hágsater 5948*, VEN! Isotype: AMO! (illustration voucher.) Clonotypes: 1 marzo 1981, AMES! F! G! K! MO! 4 abril 1981, NY!

Epidendro tipuloideo Lindl. simile, sed labelo cordiformi integro, disco 5-7-carinato differt.

Hierba epífita, cespitosa, hasta 23 cm de alto. **Raíces** basales, delgadas, simples, ca. 2 mm de grosor. **Tallos** erectos, algo engrosados formando seudobulbos angostamente fusiformes, de varios entrenudos, 5-8 x ca. 0.5 cm, cubiertos cuando jóvenes por vainas escariosas imbricadas, las superiores foliosas. **Hojas** 2-3, de las vainas superiores del tallo, suberectas, linear-elípticas, agudas, herbáceas, 6-12 (17) x 0.5-0.7 (1) cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, más corta que la hoja apical, hasta ca. 8 cm de largo, erecta o ligeramente arqueada, racemosa; pedúnculo sin espata, generalmente con dos brácteas basales algo infladas, imbricadas, éstas de 1.5-2.5 cm de largo. **Brácteas florales** triangular-ovadas, hialinas, mucho más cortas que el ovario, ca. 2.5 mm de largo. **Ovario** delgado, dilatado detrás de los sépalos, no ornamentado, 9-12 mm de largo. **Flores** 4-20, simultáneas, resupinadas, color verde, verde-crema o crema-amarillento, columna blanca; fragancia "dulce pero no muy agradable". **Sépalo dorsal** algo reflexo, elíptico, agudo, aristado, dorsal y apicalmente carinado, carina erosa, 5-nervado, 10-12 x 4 mm. **Sépalos laterales** ligeramente extendidos, elípticos, agudos, largamente aristados, dorsalmente carinados en el tercio apical, carina erosa, 5-nervados, 11-13.5 x 4-4.4 mm. **Pétalos** reflexos, recurvados, angostamente oblanceolados, agudos, delgados, márgenes erosos, 3-nervados, 10 x 1.5-2.3 mm. **Labelo** unido a la columna, entero, cordiforme, en ocasiones los márgenes indentados o angostados, nunca trilobado, márgenes finamente erosos, generalmente extendidos, disco algo engrosado, 6.5-7 x 5.5-6 mm; callo aparentemente ausente, pero con una quilla baja recorriendo el centro del labelo y varias quillas romas en la base, debajo del ápice de la columna (5-7-quillado en la base). **Columna** casi recta, delgada, 5.5 mm de largo. **Antera** obovoide, no ornamentada, 4-locular. **Clinandrio** obsoleto. **Polinios** 4, obovoides, subiguales, lateralmente comprimidos; caudículas ligeramente más largas que los polinios, granulosas; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Nectario** poco profundo, penetrando menos de 1/4 del ovario. **Cápsula** no vista.

Epiphytic, caespitose herb. **Pseudobulbs** narrowly fusiform, several-noded, when young completely covered by scarious, imbricating sheaths. **Leaves** 2-3, from the upper sheaths of the pseudobulb, linear-elliptic, acute, grass-like. **Inflorescence** terminal, from the mature stem, flowers only once, shorter than the apical leaf, erect or slightly arcuate, racemose; peduncle without spathe, usually with two basal, somewhat inflated, imbricating sheaths. **Floral bracts** triangular-ovate, hyaline, much shorter than the ovary. **Ovary** slender, dilated behind the sepals. **Flowers** 4-20, simultaneous, resupinate, green, creamy-green or creamy-buff, column white; fragrance "sweet but not very pleasant". **Dorsal sepal** somewhat reflexed, elliptic, acute, aristate, dorsally and apically keeled, keel erose, 5-veined. **Lateral sepals** partially spreading, elliptic, acute, long-aristate, dorsally prominently keeled along the apical third, keel erose, 5-veined. **Petals** reflexed, recurved, narrowly oblanceolate, acute, thin, margins erose, 3-veined. **Lip** united to the column, entire, cordiform, sometimes the margins indented or narrowed, never 3-lobed, margins finely erose, generally spreading, disk somewhat thickened; callus proper apparently absent, but a blunt, low keel runs down the center of the lip, and several smaller, blunt, low keels below the apex of the column. **Column** nearly straight, thin. **Clinandrium** obsolete. **Anther** obovoid, unornamented, 4-celled. **Pollinia** 4, subequal, obovoid, laterally compressed; caudicles slightly longer than the pollinia, granulose; viscidium semiliquid, transparent. **Rostellum** apical, slit. **Nectary** shallow, penetrating less than 1/4 of the ovary.

OTHER SPECIMENS: VENEZUELA: Aragua: Carnevali 2823, VEN! **Falcón:** Renz 7666, Herb. Renz (x2)! Steyermark 99120, AMES! **Lara:** Renz 4867, Herb. Renz (x2)! **Miranda:** Renz 8814, Herb. Renz! 8824, Herb. Renz! Steyermark 125589, VEN! **Yaracuy:** Steyermark & Bunting 97647, VEN!

OTHER RECORDS: VENEZUELA: Yaracuy: Dunsterville 192 (drawing), AMES! K! Dunsterville 192A (drawing), AMES! K!



DISTRIBUTION AND ECOLOGY: Known only from the Cordillera de la Costa, Venezuela, at 1200-1360 m altitude. Flowering recorded from September to December and in March and April.

RECOGNITION: Epidendrum costanense is closely allied to E. tipuloideum Lindl., but can be distinguished by the heart-shaped, entire, ecallose lip with 5-7 basal, low keels; the flowers appear to be always light green or yellowish, without reddish or brownish lines. E. tipuloideum has a clearly 3-lobed lip and a pair of basal, subglobose calli, sometimes extending into short low keels, and a central low keel. The flowers are generally described as having light red-brown lines and small points or suffusion, especially on sepals and petals. The shape of the lip is very easily recognized in both live and pressed specimens. E. costanense is restricted to the Cordillera de la Costa, while E. tipuloideum is found only in the Sierra de los Andes in Venezuela and Colombia. Plants cited as E. tipuloideum from Peru belong to a different, unidentified species.

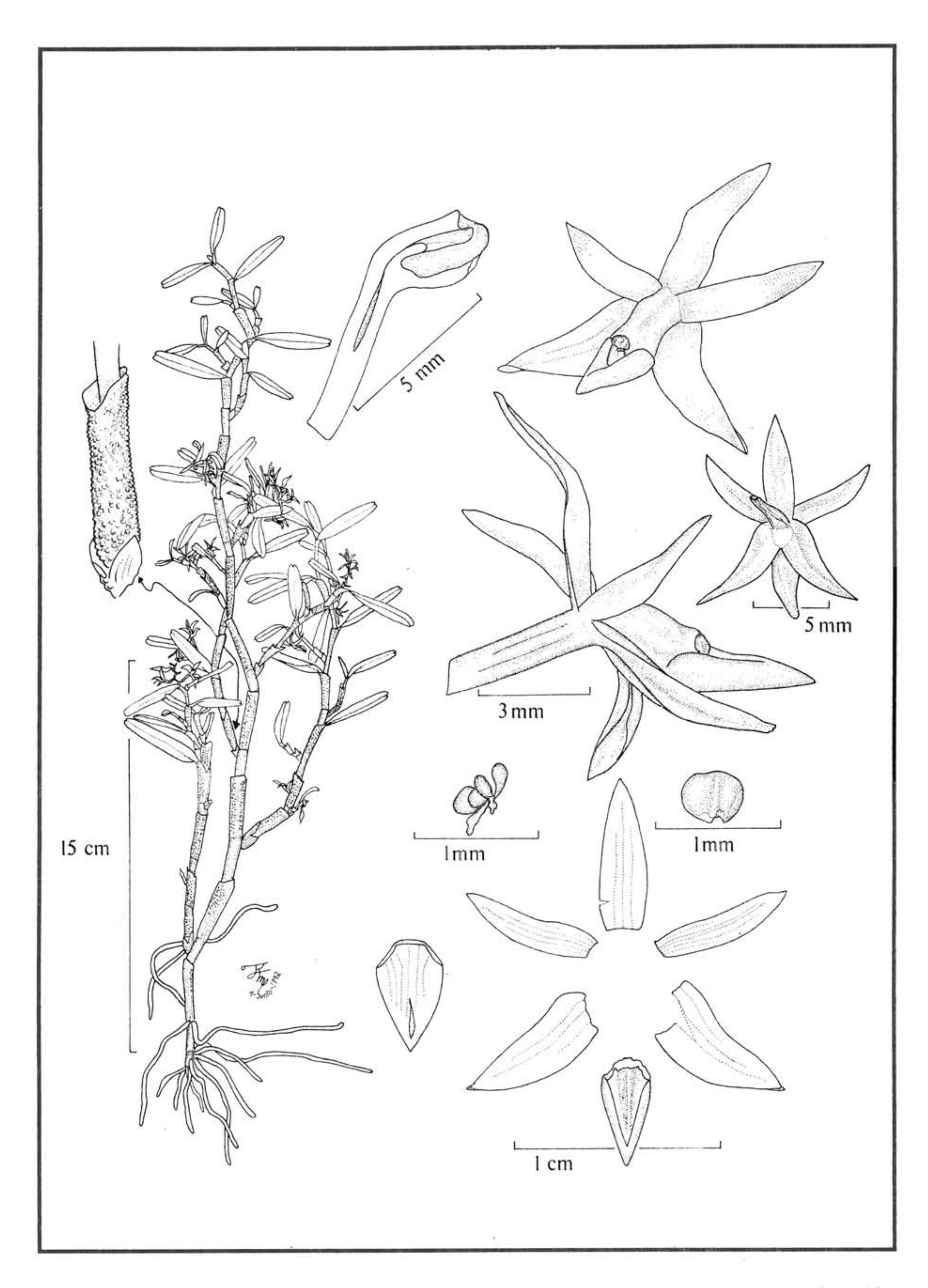
CONSERVATION STATUS: Unknown.

ETYMOLOGY: The name costanense refers to the coastal mountain range of Venezuela, to which the species seems to be restricted. The species has been known informally by this name (as "costanesis") for some time among orchid cultivators in Venezuela.

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EPIDENDRUM CURVISEPALUM Hágsater & Dressler **Plate 125**

Text on the reverse side

EPIDENDRUM CURVISEPALUM Hágsater *et* Dressler, *sp. nov.*

Holotype: PANAMA: Chiriquí: Cerro Colorado, about 50 km N of San Félix, ca. 1400 m, 17 Aug. 1975, *R.L. Dressler 5087*, AMO! (illustration voucher.)

Epidendro rugoso Ames simile, sed differt sepalis falcatis, basi connatis, 6-7 mm longis, et petalis 5-nervibus.

Hierba epífita, erecta, 12-30 cm de alto. **Raíces** producidas de los entrenudos inferiores de los tallos basales, carnosas, 1-1.5 mm de grosor. **Tallos** ramificados, tipo caña, flexuosos, teretes; de los internodos basales o intermedios del tallo basal se producen varias ramas principales, y de estas se producen las ramificaciones secundarias en las que se produce la floración, siendo más cortas y generalmente pudiendo producir a su vez una o varias ramitas cortas cerca del ápice; tallos principales 11-16 x 0.3-0.5 cm, ramas más pequeñas, hasta 2-5 x 0.15-0.3 cm. **Hojas** 3-8 por tallo, distribuidas a lo largo de cada tallo; vaina tubular, densamente verrucosa, 0.6-2.2 cm de largo; lámina angostamente elíptica, ápice desigualmente bilobado, margen entero, subcoriácea, lisa; las de los tallos principales más grandes, 2-3 x 0.5-0.6 cm, las de las ramas más pequeñas, 1.2-2 x 0.3-0.5 cm. **Inflorescencia** terminal en las ramas, racemosa, dística, erecta, florece una sola vez de un punto determinado, pero las ramificaciones producen nuevas ramificaciones subapicales y nuevos racimos, ca. 1.5-2.5 cm de largo; pedúnculo sin bráctea basal; raquis en zig-zag, no ornamentado. **Bráctea floral** más corta que el ovario, ovada, aguda, 2-4 mm de largo. **Flores** (2) 4-5, sucesivas, varias abiertas a la vez, la basal marchita cuando se abre el último botón, color verde pálido a cobrizo; botón floral oblicuo, recurvado cerca de la base, formando un ángulo casi recto. **Ovario** no inflado, terete, no ornamentado, 3-6 mm de largo. **Sépalo dorsal** extendido, lanceolado, agudo, con quilla dorsal apical, glabro, carnoso, márgenes extendidos, 3-nervado, 6-7 x 2.2 mm. **Sépalos laterales** extendidos, connados en la base, lanceolados, agudos, claramente falcados, con quilla dorsal apical, glabros, carnosos, márgenes extendidos, 3-nervados, 6-7 x 2.5 mm. **Pétalos** extendidos, linear-lanceolados, agudos, algo falcados, márgenes extendidos, 5-nervados, 6-7 x 1.5 mm. **Labelo** unido a la columna, entero, suculento, ecalloso, con los lados involutos a todo lo largo en posición natural, al extender ovado-triangular, agudo, 5 x 3 mm. **Columna** arqueada en la base, gruesa, ca. 3 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** reniforme, 4-locular. **Polinios** 4, semiobovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, más cortas que los polinios; viscidio semilíquido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** obsoletos. **Nectario** poco profundo, sin penetrar detrás del perianto, no ornamentado, amplio. **Cápsula** no vista.

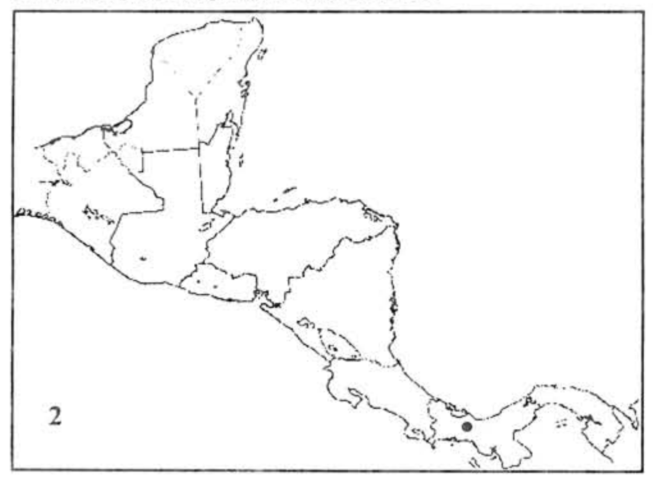
Epiphytic, erect, much branching **herb**. **Roots** from the base only, fleshy. **Stems** flexuous, main stem short, producing branches from the lower and middle internodes, which in turn produce flowering branches from the upper internodes, and may produce new, very short branchlets from subapical internodes. **Leaves** 3-8 per stem or branch; sheath densely verrucose; blade narrowly lanceolate, apex unequally bilobed, those of the main stems larger than those of the branches. **Inflorescence** terminal, from secondary branches, racemose, flowering only once from one given branch, but the branches can produce new flowering branches, erect, zigzag. **Flowers** (2) 4-5, concolor, pale green to bronze. **Sepals** spreading, lanceolate, acute, fleshy, 3-veined; lateral sepals clearly falcate, connate at the base. **Petals** linear-lanceolate, acute, 5-veined. **Lip** united to the column, entire, fleshy, ecallose, ovate-triangular, acute, margins involute. **Column** stout, arcuate at the base. **Clinandrium** obsolete. **Anther** reniform. **Pollinia** 4, semiobovoid; caudicles soft and granular, short; viscidium semiliquid. **Rostellum** subapical, slit. **Lateral stigma lobes** obsolete. **Nectary** shallow, not penetrating beyond the perianth.

DISTRIBUTION AND ECOLOGY: Known presently only from western Panama. Epiphyte in cloud forest. Flowering in August.

RECOGNITION: Epidendrum curvisepalum is closely related to E. rugosum Ames, but is immediately distinguished by the falcate lateral sepals, which strongly diverge about the middle (the divergence being evident even in herbarium material), the ovate-triangular lip with margins strongly involute, and the 5-veined petals. E. rugosum, on the other hand, has straight lateral sepals, sharply triangular lip with only the basal margin slightly involute, and 3-veined sepals.

CONSERVATION STATUS: Unknown.

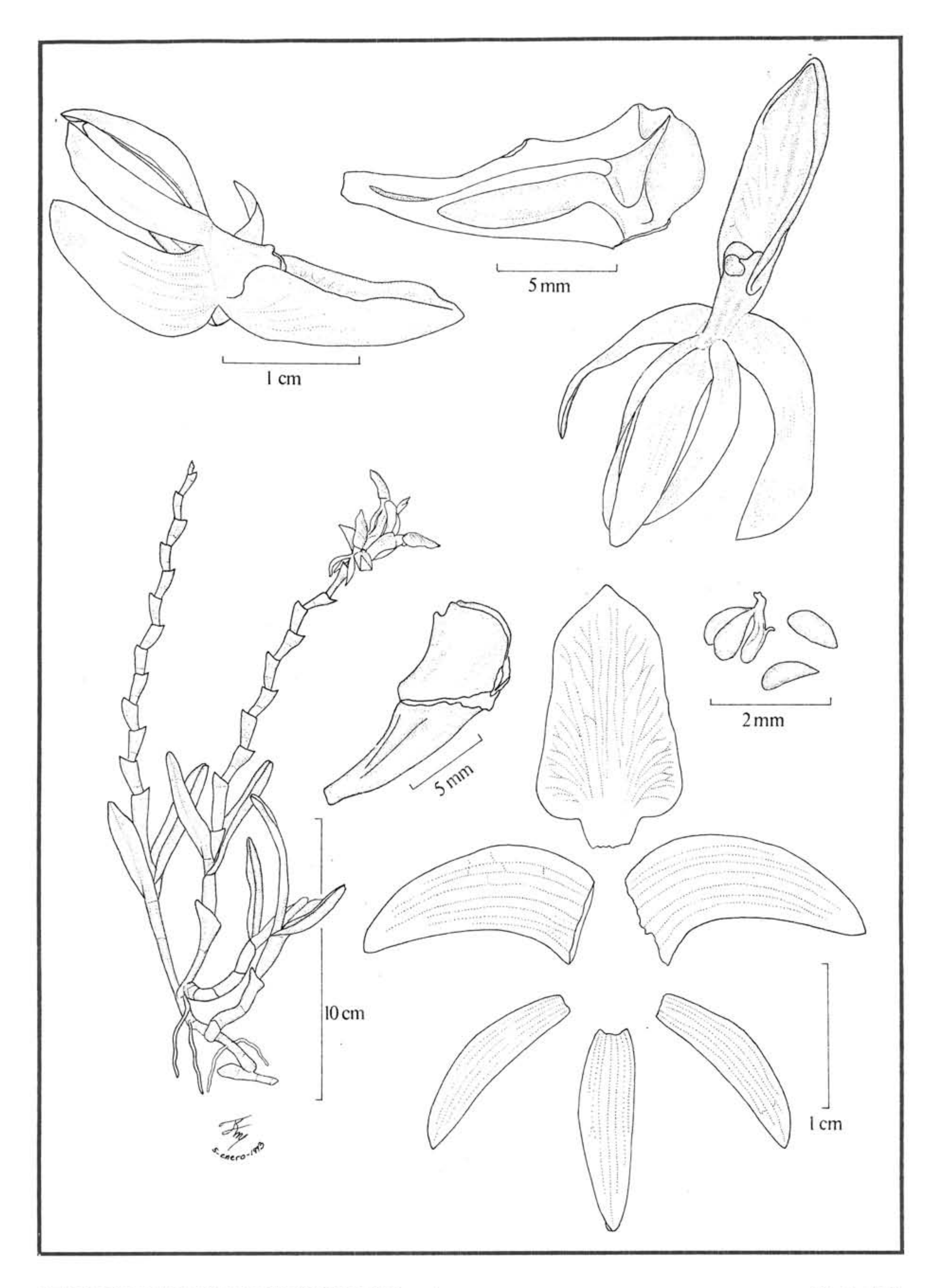
ETYMOLOGY: The specific name is applied in reference to the curved lateral sepals characteristic of this species, which immediately set it apart from its relatives.



Authors: E. Hágsater & R. L. Dressler Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM CYMBIGLOSSUM Hágsater

Plate 126

Text on the reverse side

EPIDENDRUM CYMBIGLOSSUM Hágsater, *sp. nov.*

Holotype: PANAMA: Chiriquí: Distr. Bugaba, Santa Clara, 8°50'N, 82°44'W, to Cerro Pando, *H. van der Werff 7186 & J. Herrera*, SEL! (illustration voucher.)

Epidendro anoglosso Schltr. simile, sed differt caulibus brevibus, bifoliatis, floribus successivis, majoribus, labello longiter trapezoideo, obtuso, 17 mm longo.

Hierba epífita, escandente, hasta 35 cm de alto. **Raíces** carnosas, delgadas, producidas en los entrenudos basales de cada tallo, ca. 1 mm de grosor. **Tallos** erectos, arqueados o rectos, lateralmente comprimidos, producidos en un entrenudo intermedio del tallo anterior, parcialmente cubiertos en la base por una vaina tubular no foliácea, 13-21 x 0.3-0.9 cm. **Hojas** 2, subapicales; vaina tubular, 1.3-2.1 cm de largo; lámina elíptica, con una quilla dorsal, ápice bilobado, 3.3-5.5 x 0.7-1.3 cm. **Inflorescencia** terminal en el tallo maduro, racemosa, florece una sola vez, 18-19 cm de largo; raquis flexuoso, fuertemente comprimido lateralmente, ancipitoso, cada segmento con una bráctea conduplicada, ancha y corta, oblicua, obtusa, de 2-5 x 5-6 mm. **Ovario** progresivamente dilatado hacia el ápice oblicuo, 7 mm de largo. **Flores** ca. 9, sucesivas, no resupinadas, color "amarillo". **Sépalo dorsal** reflexo, lanceolado, redondeado, con una quilla dorsal apical redondeada, 7-nervado, 13 x 4 mm. **Sépalos laterales** reflexos, triangular-falcados, obtusos, 7-nervados, 17 x 6 mm. **Pétalos** reflexos, oblicuamente angostamente elípticos, obtusos, 5-nervados, 14 x 3 mm. **Labelo** unido a la columna, entero, cóncavo, en forma de barca, largamente trapezoide, obtuso, margen entero, ecalloso, sin quillas, 17 x 10 mm. **Columna** recta, gruesa, corta, el ápice ampliamente redondeado, 7 x 5 mm. **Clinandrio** obsoleto. **Antera** no vista. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas 2, laminares, lanceoladas, del mismo largo de lor polinios. **Rostelo** hendido. **Nectario** profundo, penetrando la mitad del ovario, amplio, no ornamentado. **Cápsula** no vista.

Epiphytic, scandent **herb**. **Roots** fleshy, thin, from the basal internodes of each stem. **Stems** erect, arcuate to straight, laterally compressed, arising from a middle internode of the previous stem, partly covered by one non-foliaceous sheath. **Leaves** 2, subapical; sheaths tubular; blade articulate, elliptic, apex bilobed. **Inflorescence** terminal in the mature stem, racemose, flowers only once; rachis flexuous, ancipitous, each segment with a short and wide, conduplicate, obtuse bract. **Ovary** progressively dilated towards the oblique apex. **Flowers** ca. 9, successive, non-resupinate, "yellow". **Dorsal sepal** reflexed, lanceolate, rounded, 7-veined. **Lateral sepals** reflexed, triangular-falcate, obtuse, 7-veined. **Petals** reflexed, obliquely narrowly elliptic, obtuse, 5-veined. **Lip** united to the column, entire, concave, boat-shaped, long-trapezoid, obtuse, margin entire, ecallose, without keels. **Column** straight, thick, short. **Clinandrium** obsolete. **Pollinia** 4, obovoid, laterally compressed; caudicles 2, laminar, lanceolate, about as long as the pollinia. **Rostellum** slit. **Nectary** deep, penetrating half the ovary, wide, not ornamented.

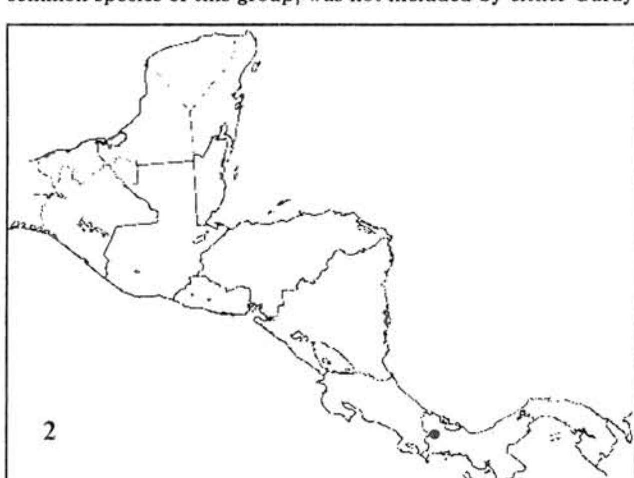
DISTRIBUTION AND ECOLOGY: Known only from the type. Flowering in February and earlier, probably over several months.

RECOGNITION: Epidendrum cymbiglossum belongs to the "Neowilliamsia" group within the genus Epidendrum, which is recognizable by the ancipitous rachis, conduplicate, acute bracts, and laminar, lorate caudicles with either 2 or 4 pollinia. Epidendrum cymbiglossum closely resembles E. anoglossum Schltr. at first sight, but can be easily distinguished by the stout, two-leaved stems; successive, larger flowers (the lip 17 mm long vs. 7 mm long), and the distinctly formed lip (long-trapezoid, obtuse vs. trullate, acute).

CONSERVATION STATUS: Unknown.

ETYMOLOGY: From Greek kymbes, boat-shaped vessel, and glossa, tongue, in reference to the concave, boat-shaped lip of this species.

NOTE: Both Garay (1977) and Dressler (1981) recognized the genus Neowilliamsia Garay as a segregate from Epidendrum, though each included in it different species, depending on the number of pollinia. If the genus Epidendrum were to be split up into some 50 genera or more, Neowilliamsia would stand, but both E. cymbiglossum and E. anoglossum would have to be added to the species included there by Dressler. It is interesting to note that E. anoglossum, by far the most common species of this group, was not included by either Garay or Dressler in Neowilliamsia. The number of pollinia is an easy character to see, but in this case a bad one to separate species into natural groups or genera.

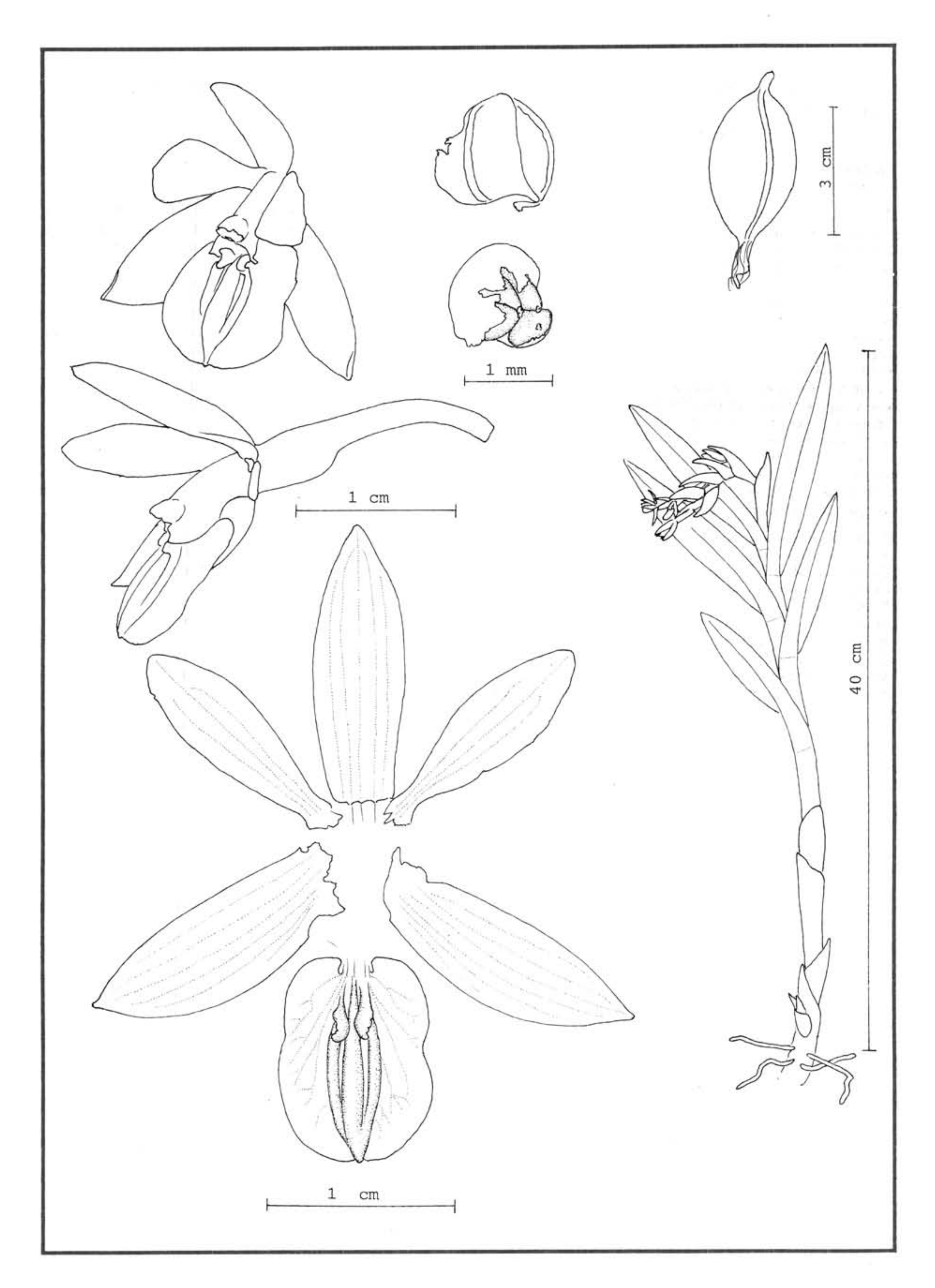


REFERENCES: Dressler, R.L. 1981. El género Neowilliamsia Garay. **Orquídea (Méx.)** 8(1): 27-36; Garay, L.A. 1977. The subtribe Epidanthinae L.O. Wms. **Orchid Digest** 41(1): 19-22.

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EPIDENDRUM DAVIDSEI Hágsater

Text on the reverse side

Plate 127

EPIDENDRUM DAVIDSEI Hágsater, *sp. nov.*

Holotype: COSTA RICA: Limits between provinces of San José and Cartago: 2.5 km directly W of highest peak of Cerros Cuericó, 3200-3279 m, 18 Sept. 1983, *G. Davidse 24859*, AMO! (illustration voucher.) Isotypes: BM, MO, SEL!

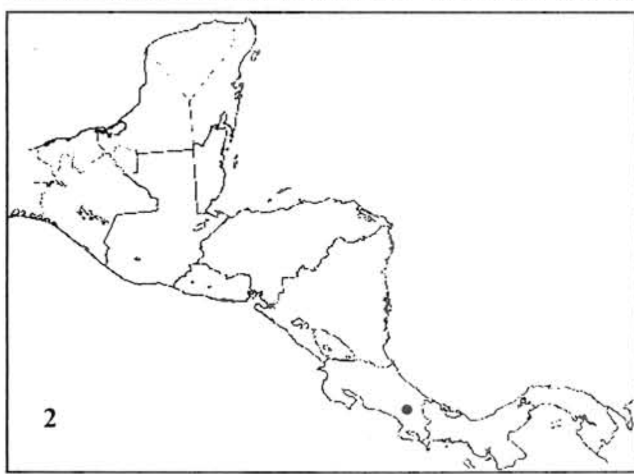
Epidendro bracteoso Ames & C. Schweinf. simile, sed planta majore, labello pandurato, subquadrangulari, 12 x 8 mm, et petalis trinervibus distinguendo.

Hierba epífita, cespitosa, ca. 40-50 cm de alto. **Raíces** basales, carnosas, 1.5-2 mm de grosor. **Tallos** erectos, rectos, lateralmente comprimidos, envueltos en la mitad basal por 5 vainas escariosas, hasta 25 cm de largo. **Hojas** ca. 5, distribuidas a lo largo de la mitad apical del tallo; vaina tubular, lateralmente comprimida; lámina angostamente elíptico-lanceolada, aguda, 8-14.5 x 1.5-2.2 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa o produciendo una rama, arqueada, ca. 12 cm de largo, con una espata tubular, lateralmente comprimida, aguda, de 6 cm de largo. **Brácteas florales** grandes, conduplicadas, cuculadas, ovadas, agudas al extenderlas (imposibles de extender sin romperse), progresivamente más pequeñas, espaciadas, 11-13 mm de largo. **Flores** ca. 7-9, "amarillo pálido ligeramente teñidas de rosado por detrás". **Ovario** dilatado en el tercio apical, 12-20 mm de largo. **Sépalo dorsal** entreabierto, angostamente elíptico, subcoriáceo, 5-nervado, 12-15 x ca. 5 mm. **Sépalos laterales** entreabiertos, angostamente elípticos, agudos, ligeramente falcados, carnoso-subcoriáceos, 5(6)-nervados, 12-15 x ca. 5 mm. **Pétalos** entreabiertos, angostamente elípticos, fuertemente constrictos cerca de la base, redondeados, subcoriáceos, 3-nervados, 11-12 x ca. 4 mm. **Labelo** unido a la columna, entero, panduriforme, constricto abajo de la mitad, subcuadrangular, cordado, redondeado, con un mucrón formado por el ápice de la quilla central, plano en posición natural, carnoso, con tres quillas en el centro, bicalloso, los callos algo cóncavos en la cara externa, 12 x 8 mm. **Columna** ligeramente arqueada, 5-6 mm de largo. **Clinandrio** prominente, sobresaliendo ligeramente en el ápice de la columna, margen eroso. **Antera** plana, circundada por un filo bajo, con una quilla roma central, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, el par interior algo más pequeño; caudículas aparentemente muy pequeñas. **Nectario** prominente, penetrando 1/3 del ovario. **Cápsula** elipsoide, 3.2 x 2 cm, con pedicelo de 4 mm de largo.

Epiphytic, caespitose herb. Roots fleshy, from the base of the stems. **Stems** erect, straight, laterally compressed, base enveloped by 5 scarious sheaths, upper half covered by leaf sheaths. **Leaves** ca. 5, evenly distributed in the apical half of the stems; sheath tubular, laterally compressed; blade narrowly elliptic-lanceolate, acute. **Inflorescence** terminal, from the mature stem, flowers only once, racemose to 1-branched, arcuate, with a tubular, laterally compressed, acute spathe. **Floral bracts** large, conduplicate, cucullate, ovate, acute when flattened (impossible to flatten without tearing), progressively smaller, spaced apart. **Flowers** ca. 7-9, "dull yellow with pink tinge on the back". **Ovary** swollen ventrally on the apical 1/3. **Dorsal sepal** partly open, narrowly elliptic, acute, fleshy-subcoriaceous, 5-veined. **Lateral sepals** partly open, narrowly elliptic, acute, fleshy-subcoriaceous, 5(6)-veined, slightly falcate. **Petals** partly open, narrowly elliptic, strongly constricted near the base, rounded, subcoriaceous, 3-veined. **Lip** united to the column, entire, pandurate, slightly constricted below the middle, subquadrangular, cordate, rounded, with a mucro formed by the end of the central keel, flat in natural position, fleshy, with 3 thick, central keels, bicallose, the calli somewhat concave on the outer side. **Column** slightly arcuate. **Clinandrium** prominent, slightly protruding at the apex of the column, margin erose. **Anther** flat, surrounded by a rim and with a prominent, low, rounded keel running down the middle, 4-celled. **Pollinia** 4, obovoid, unequal, the inner pair somewhat smaller; caudicles apparently very small. **Nectary** prominent, penetrating about 1/3 of the ovary. **Capsule** ellipsoid, with a short pedicel.

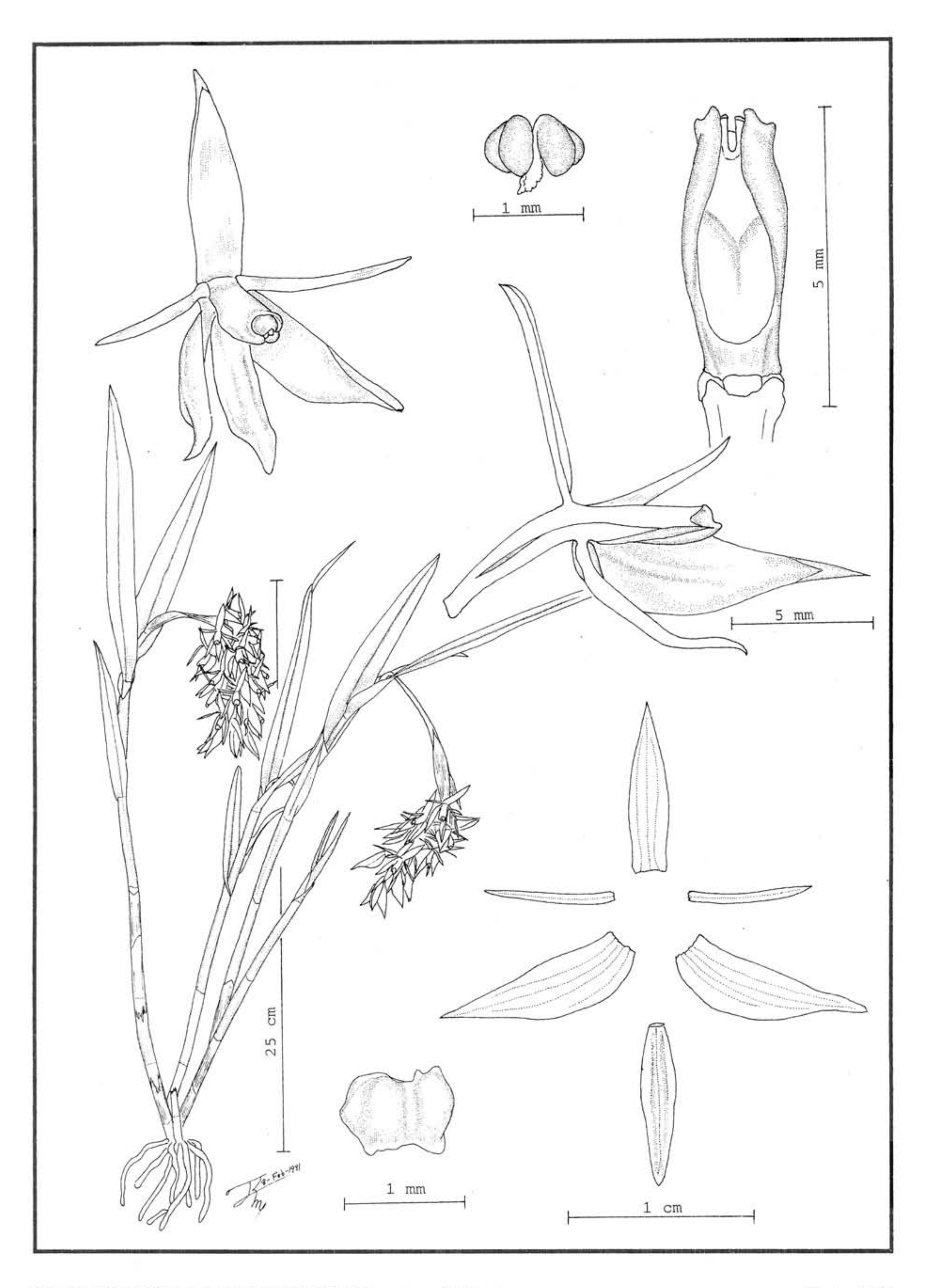
DISTRIBUTION AND ECOLOGY: Known only from the type collection, from a remote site in montane forest along a mountain ridge dominated by Quercus and Clethra with Chusquea understory. Flowering and fruiting (from previous flowering) in September.

RECOGNITION: Epidendrum davidsei is distinguished from all other Central American species by the relatively large plants (ca. 40 50 cm high) of caespitose habit, with terminal, racemose to 1-branched inflorescence with a basal spathe, the large, conduplicate, cucullate, progressively smaller, acute floral bracts and the fleshy flowers with 3-veined petals and pandurate, subquadrangular lip 12 x 8 mm, with three fleshy keels running down the center. It is closely related to E. bracteosum Ames & C. Schweinf., which can be easily distinguished by the much smaller plants up to 14 cm high, the flowers with 1-veined petals and smaller segments, the lip 7-8 x 6 mm. Both species seem to be sympatric at the type locality of E. davidsei, and both belong rather loosely in the Epidendrum coriifolium Lindl. group, with the inflorescence, however, sometimes branched and not distichous.



CONSERVATION STATUS: Unknown.

ETYMOLOGY: The species is named in honor of Gerrit Davidse, of the Missouri Botanical Garden, who collected the specimen that served as type.



EPIDENDRUM DIALYCHILUM Hágsater & Dodson

Plate 128

Text on the reverse side

EPIDENDRUM DIALYCHILUM Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Prov. Sucumbíos: km 61.3 desviación de carretera Tulcán-Ibarra hacia La Bonita, 2,000 m, colectado 8 julio 1990, prensado en cultivo 21 febrero 1991, *E. Hágsater 10585, C. H. Dodson, D. Rubio & N. Revelo*, QCNE! Isotypes: AAU! AMO! (illustration voucher.)

Epidendro alpicolo Rchb. f. simile, sed labello e columna omnino libero, integro, lanceolato-elliptico, acuto, ecalloso.

Hierba epífita, cespitosa, 16-33 cm de alto. **Raíces** basales, ca. 2 mm de grosor. **Tallo** producido en la base del tallo anterior, tipo caña, recto, terete, sencillo, 8-18 cm de largo, 2.5-3.5 mm de grosor. **Hojas** 2-4, equidistantes en la mitad apical del tallo; vainas tubulares, rayadas de morado, la apical ancipitosa; lámina angostamente lanceolado-elíptica, aguda, margen entero, herbácea, con carina dorsal y 2-4 nervaduras adicionales prominentes, haz verde oscuro, envés verde pálido, 4.5-16 x 0.6-1.9 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, arqueada; pedúnculo 4-8 cm de largo, con 1-3 brácteas espatáceas, imbricadas, agudas, conduplicadas, abiertas de un lado en la mitad apical, cubriendo todo el pedúnculo, 3.5-6 x 0.4-0.6 cm. **Brácteas florales** linear-lanceoladas, agudas, dos veces más largas que los ovarios, 6-12 x 1 mm. **Flores** 12-18, simultáneas, resupinadas, con fragancia herbácea nocturna, color verde manzana, los sépalos teñidos de bronce-amoratado. **Ovario** engrosado ligeramente en los 2/3 apicales, terete, no ornamentado, 3.5-7 mm de largo. **Sépalos** extendidos, libres, lanceolados, largamente agudos, márgenes extendidos, no ornamentados, membranáceos, el dorsal 3-nervado, 8.5 x 2 mm, los laterales falcados, con quilla dorsal apical baja, 3-nervados, con el nervio inferior bifurcado desde la base, 10.5-11 x 2.5-2.7 mm. **Pétalos** entreabiertos, lineares, agudos, márgenes extendidos, membranáceos, 1-nervados, 6.5 x 0.5 mm. **Labelo** totalmente libre de la columna, entero, lanceolado-elíptico, agudo, márgenes enteros, ecalloso, en posición natural la base perpendicular a la columna e inflexo hasta que el ápice queda paralelo a la columna, 8.5 x 1.2 mm. **Columna** recta, delgada, 5 mm de largo. **Clinandrio** obsoleto, entero. **Antera** reniforme, con una quilla roma al frente, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, ligeramente más largas que los polinios; viscidio semilíquido. **Rostelo** apical, hendido. **Cavidad estigmática** muy grande, ocupa casi toda la superficie ventral de la columna, lóbulos laterales ausentes. **Nectario** totalmente ausente. **Cápsula** no vista.

Epiphytic, caespitose **herb**. **Stem** erect, reed-like, terete. **Leaves** 2-4, on the upper half of the stem, narrowly lanceolate-elliptic, acute, herbaceous. **Inflorescence** terminal, racemose, arcuate, flowers only once, with 12-18 simultaneous, resupinate, apple-green flowers, the sepals tinged with bronze-purple. **Ovary** thickened in the apical 2/3. **Sepals** lanceolate, long-acute, 3-veined, the laterals falcate, with the lower vein bifurcate at the base. **Petals** linear, acute, 1-veined. **Lip** completely free from the column, entire, lanceolate-elliptic, acute, ecallose. **Column** straight. **Clinandrium** obsolete, entire. **Anther** reniform, with a low, rounded keel in front, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose; viscidium semiliquid. **Rostellum** apical, slit. **Stigmatic cavity** very large, occupying nearly the whole ventral surface of the column, lateral lobes missing. **Nectary** missing.

OTHER SPECIMENS: **ECUADOR**: Grisar s.n., P! **Morona-Santiago:** Hirtz 3784, RPSC! Dalström & Hoijer 880, SEL! **Sucumbíos:** Hágsater et al. 10776., AMES! AMO! **PERU**: **Amazonas:** Gentry et al. 22871, NY! SEL! 22996, SEL!

DISTRIBUTION AND ECOLOGY: Widely distributed along the eastern slope of the Eastern Andean Ridge in Ecuador and Peru, in well-ventilated, wet tropical evergreen forest, from 600 to 2000 m altitude. Flowering in January and February.

RECOGNITION: The arching inflorescence with 12-18 simultaneous flowers, lanceolate-elliptic lip completely free from the column, lanceolate sepals, linear, acute petals, and the very large stigmatic cavity, occupying nearly the whole ventral surface of the column, make this species unique. The entirely free lip of this species is the only exception known to us in what is otherwise a constant character in Epidendrum, i.e., the partial adnation of lip and column, but all other floral parts are quite typical of the genus. The species belongs to the E. alpicolum Rchb. f. group, in which the lip generally is united to the column and 3-lobed.



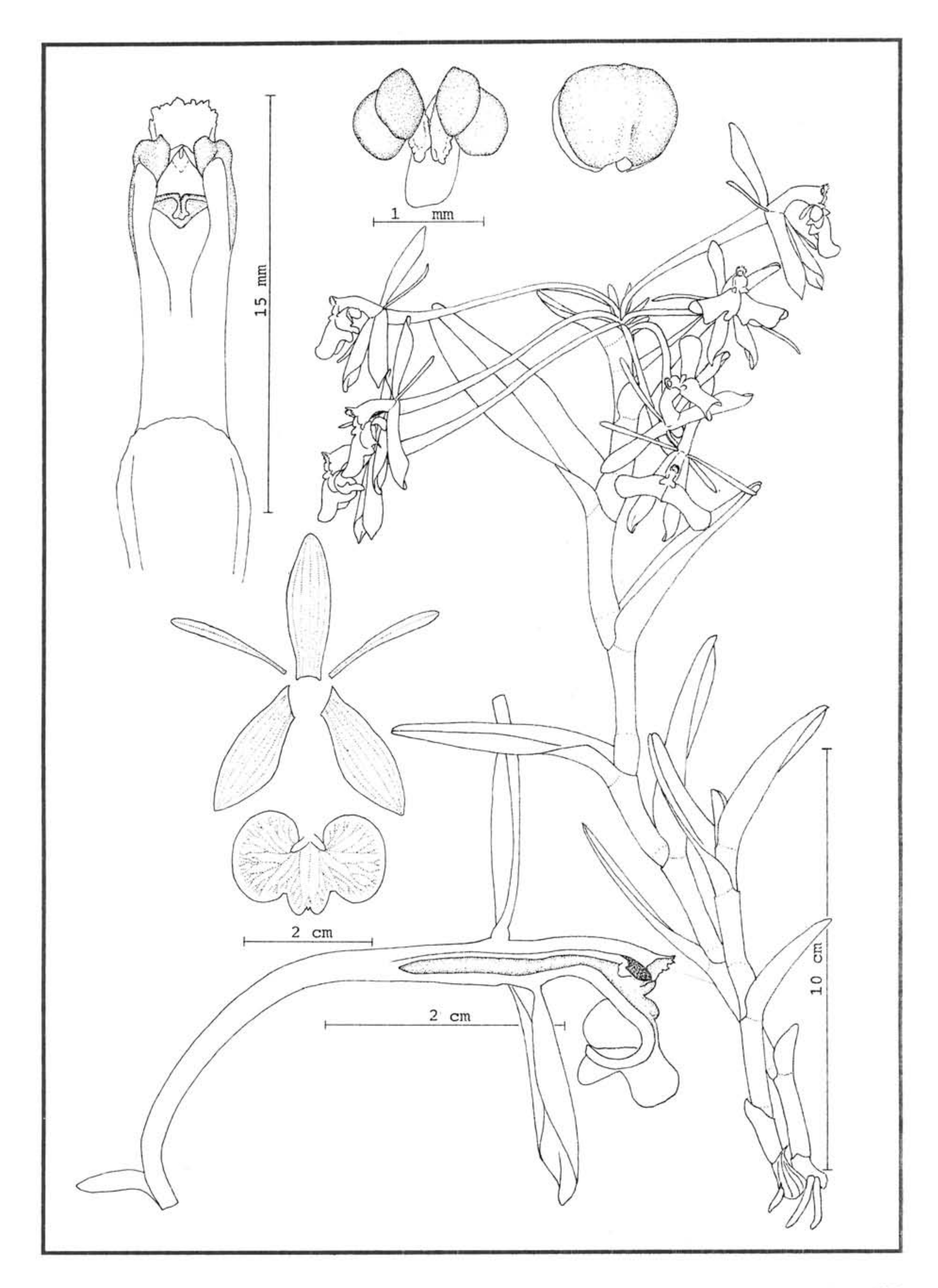
CONSERVATION STATUS: Not threatened. This species is widespread and locally common.

ETYMOLOGY: From the Greek dialyo, separated, and chilum, lip, in reference to the lip which is completely free from the column.

Authors: E. Hágsater & C. H. Dodson　　Ilustrator: R. Jiménez　　Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM DIXORUM Hágsater

Text on the reverse side

Plate 129

EPIDENDRUM DIXORUM Hágsater, *sp. nov.*

Holotype: GUATEMALA: Acatenango, # 2, prensado 10 mayo 1982, *Dix sub E. Hágsater 5358*, AMO! (illustration voucher.) Clonotypes: 18 mayo 1980, MEXU! NY! SEL! US! UVAL! 17 enero 1989, XAL!

Epidendro chlorocorymbi Schltr. simile, sed foliis succulentis, floribus 6-8 simultaneis et ovario multo longiore differt.

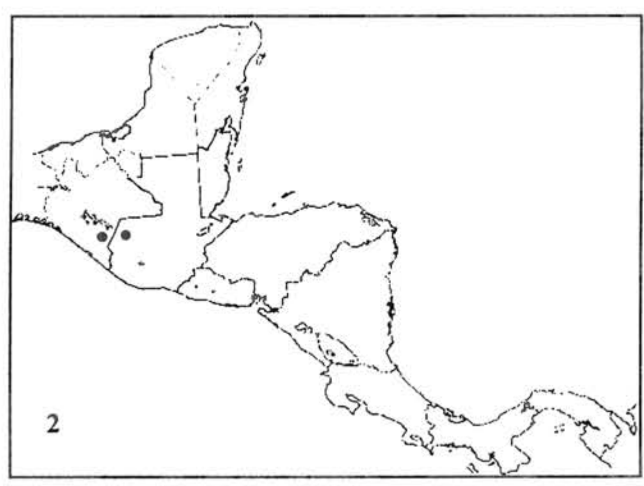
Hierba epífita, cespitosa, 18-45 cm de alto. **Raíces** basales, carnosas, 1-2 mm de grosor. **Tallo** sencillo, tipo caña, terete, ligeramente flexuoso, 13-40 cm de largo. **Hojas** 8-12, equidistantes a lo largo del tallo; vaina tubular, ligeramente dilatada hacia el ápice, lisa; lámina subcoriácea, elíptica a lanceolada, ápice asimétricamente bilobado, margen entero, lisa, con quilla dorsal roma, verde, 4.5-9 x 1-2.4 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, subumbelada, cortamente pedunculada. **Bráctea floral** mucho más corta que el ovario, extendida, ovada, 6-11 mm de largo. **Flores** (3) 6-8 (10), simultáneas, resupinadas, color verde brillante, con fragancia nocturna desagradable, a materia vegetal en descomposición. **Ovario** alargado, no inflado, terete, no ornamentado, 40-60 mm de largo. **Sépalos** subcoriáceos, extendidos, libres, glabros. **Sépalo dorsal** elíptico, redondeado, márgenes enteros, revolutos, 5-nervado, con 2 nervios subsidiarios a los lados del nervio medio, 18-23 x 5-6 mm. **Sépalos laterales** ligeramente falcados, elípticos, obtusos, márgenes enteros, revolutos, 5-nervados, con 2 nervios subsidiarios a los lados del nervio medio, 16-22 x 7-8 mm. **Pétalos** membranáceos, angostamente oblanceolados, redondeados, márgenes enteros, extendidos, 1-nervados, 20 x 1-2 mm. **Labelo** unido a la columna, trilobado, bicalloso, los callos alargados, redondeados, divergentes, con una carina muy baja, base profundamente cordada, 13-15 x 18-23 mm; lóbulos laterales mucho más grandes que el lóbulo medio, semiorbiculares, márgenes enteros; lóbulo medio trapezoide, emarginado, recurvado. **Columna** arqueada arriba de la mitad, 12-16 mm de largo. **Clinandrio** prominente, entero, margen eroso. **Antera** subesférica, no ornamentada, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, más cortas que los polinios; viscidio viscoso, translúcido. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** prominentes, de la mitad del largo de la cavidad estigmática. **Nectario** corto, penetrando 1/4 del ovario, no ornamentado. **Cápsula** elipsoide, 50 x 16 mm, con pedicelo de 10 mm de largo.

Epiphytic, caespitose **herb. Stems** reed-like, terete, slightly flexuous. **Leaves** 8-12, elliptic to lanceolate, apex unequally bilobed, margins entire. **Inflorescence** terminal, flowers only once, shortly pedunculate, subumbellate. **Flowers** (3) 6-8 (10), simultaneous, resupinate, green, with disagreeable fragrance at night. **Ovary** elongated, not inflated, terete, unornamented. **Sepals** subcoriaceous, spreading, free. **Dorsal sepal** elliptic, rounded, margins entire, revolute, 5-veined with two secondary veins. **Lateral sepals** slightly falcate, elliptic, obtuse, margins entire, revolute, 5-veined with two secondary veins. **Petals** membranaceous, narrowly oblanceolate, rounded, margins entire, spreading, 1-veined. **Lip** united to the column, 3-lobed, bicallose, with a low central keel, base deeply cordate; lateral lobes semiorbicular, margin entire; midlobe trapezoid, emarginate, recurved. **Column** arcuate above the middle. **Clinandrium** prominent, entire, margin erose. **Anther** subspherical, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent. **Rostellum** apical, slit. **Nectary** short, penetrating 1/4 of the ovary. **Capsule** ellipsoid, pedicelate.

OTHER SPECIMENS: GUATEMALA: Dix sub Hágsater 5359, AMO! Dix (2311) sub Hágsater 5779, AMO! Hágsater & Dix 5780, AMO! **MEXICO:** Chiapas Soto & Martínez 5950, AMO! 5951, K! IBUG! MO! NY! P! UAMIZ! XAL! 5952, AMO! F! MEXU! 5953, AMO! AMES! MEXU! NY! SEL! UAMIZ! XAL! 5955, AMO! CHIP! CR! F! FLAS! IBUG! LL! MO! NY! P! UAMIZ! W!

DISTRIBUTION AND ECOLOGY: Mexico (Chiapas) and Guatemala. Epiphyte on trees, in cloud forest and dwarf ("elfin") forest, from 1400 to 2150 m altitude. Flowering apparently throughout the year.

RECOGNITION: Epidendrum dixorum is a member of the E. difforme Jacq. complex, and can be distinguished by the terete stems, 6-8 large simultaneous flowers with conspicuously elongated ovary, 3-lobed lip with trapezoid, emarginate, recurved midlobe, and prominent, marginally erose clinandrium. It is somewhat similar to E. succulentum Hágsater, which has 3-veined petals, cordiform lip, straight column and fimbriate clinandrium. Epidendrum chlorocorymbos Schltr., on the other hand, has non-prominent clinandrium, 3-lobed lip, the midlobe bilobed but very short, and subglobose calli.



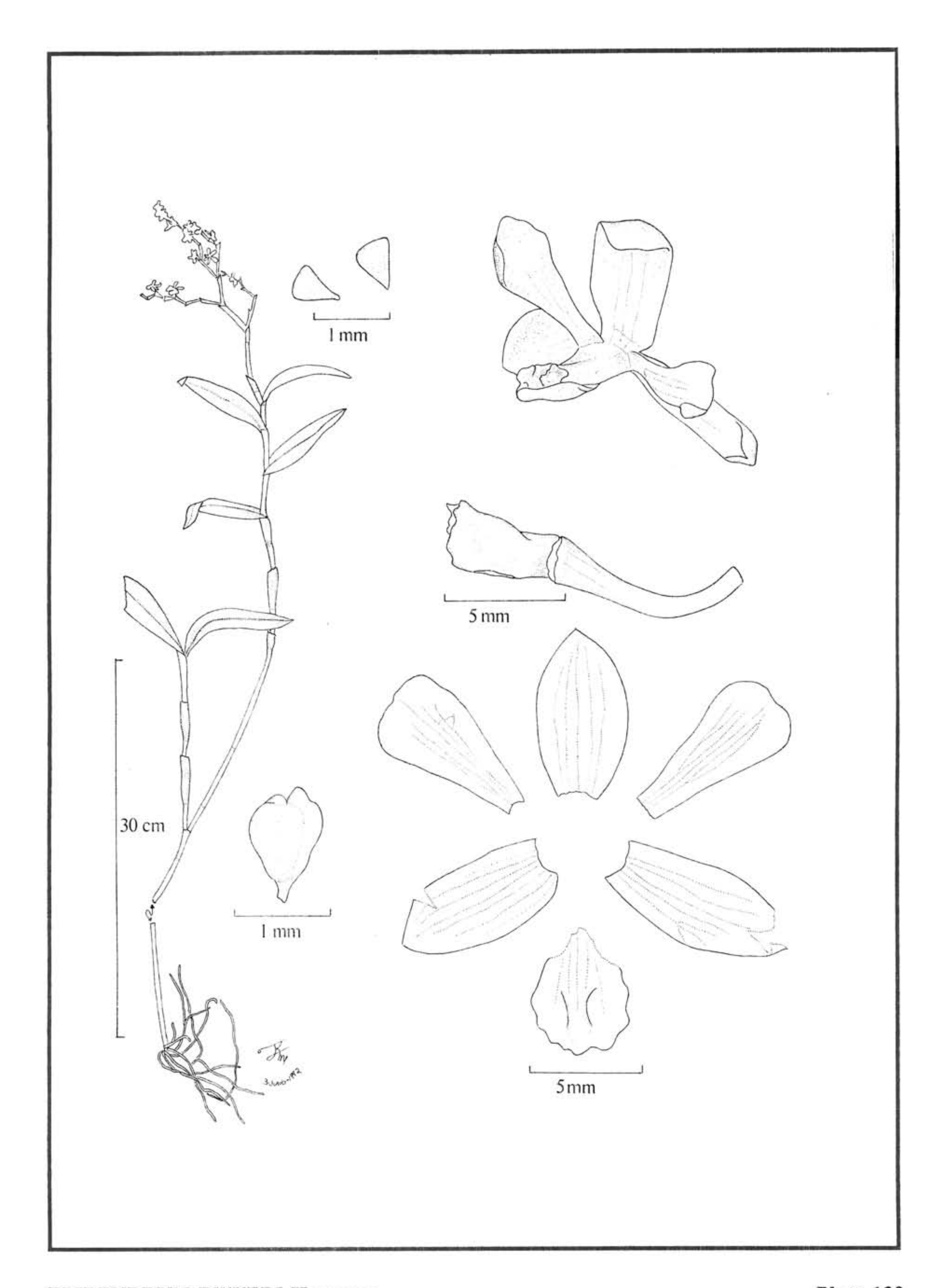
CONSERVATION STATUS: Not threatened. This species is relatively common, and is of little horticultural interest.

ETYMOLOGY: This species is dedicated to Margaret and Michael Dix, devoted botanists living in Guatemala, where they have promoted interest in the orchids and their conservation, and who collected the plant used for preparing the type.

Author: E. Hágsater **Ilustrator: E. Hágsater** **Editors: E. Hágsater & G. A. Salazar**

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EPIDENDRUM DWYERI Hágsater

Text on the reverse side

Plate 130

EPIDENDRUM DWYERI Hágsater, *sp. nov.*

Holotype: PANAMA: Chiriquí: Boquete, Cerro Horqueta, 5-6000 ft, 8 August 1967, *J.D. Dwyer 7733 & S.M.V. Hayden*, MO! (illustration voucher; illustration prepared from a hydrated flower and a xerox of the specimen, AMO!)

Epidendro wercklei Schltr. simile, sed differt sepalis petalisque brunneis (chocolatinis), labello albo, suborbiculari, margine apicali sinuoso, et petalis spatulatis, truncato-rotundatis.

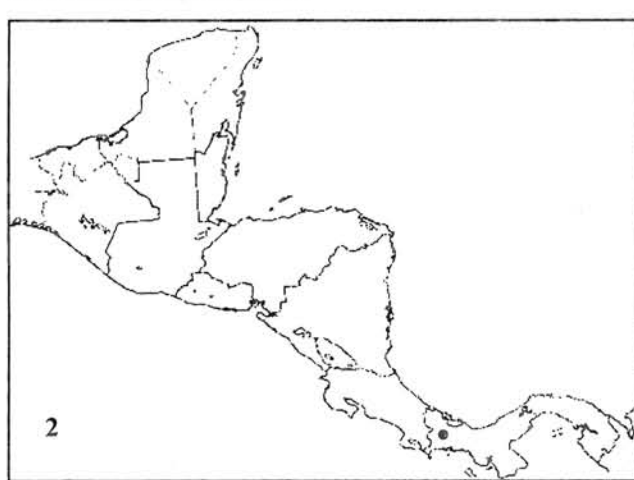
Hierba epífita, escandente, donde el nuevo tallo se produce de un entrenudo intermedio del tallo anterior, hasta 80 cm de alto. **Raíces** carnosas, delgadas, de los entrenudos basales de cada tallo, ca. 1 mm de grosor. **Tallos** erectos, arqueados a rectos, lateralmente comprimidos, parcialmente cubiertos en la base por 2-3 vainas tubulares no foliáceas, ca. 35 x 0.2-0.6 cm. **Hojas** 2-4, distribuidas en el 1/4 apical del tallo; vaina tubular, 2-3 cm de largo; lámina elíptica, aguda, 6.5-10 x 1.4-2.1 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, paniculada, 10-20 cm de largo; raquis flexuoso, fuertemente comprimido lateralmente, ancipitoso, cada nudo con una bráctea conduplicada, triangular, aguda, de 5-7 mm de largo. **Flores** 8-26, simultáneas, probablemente no resupinadas, sépalos y pétalos color pardo-chocolate, labelo blanco. **Sépalo dorsal** extendido, elíptico, el ápice formando un ángulo recto, 5-nervado, 7 x 4 mm. **Sépalos laterales** extendidos, elíptico-ovados, el ápice formando un ángulo recto, ligeramente oblicuos, 5-nervados, los nervios laterales bifurcados cerca de la base, 7 x 3.5 mm. **Pétalos** extendidos, cuneado-espatulados, truncado-redondeados, 3-nervados, los nervios laterales bifurcados cerca de la base, 7 x 3.5 mm. **Labelo** unido a la columna, entero, suborbicular, con una quilla roma al centro, ecalloso, margen apical sinuoso, 4 x 3.5 mm. **Columna** recta, gruesa, 4.5 mm de largo. **Clinandrio** corto, margen eroso. **Antera** ovoide, aguda, bilocular. **Polinios** 2, triangulares, lateralmente comprimidos; caudículas 2, laminares, liguladas, subagudas, ligeramente más largas que los polinios; viscidio semilíquido, pequeño. **Rostelo** hendido. **Nectario y cápsula** no vistos.

Epiphytic, scandent herb, the new stem produced from a middle internode of the previous stem. **Roots** fleshy, thin, from the basal internodes of each stem. **Stems** erect, arcuate to straight, laterally compressed, partly covered by 1-3 non-foliaceous sheaths. **Leaves** 2-5, distributed along the apical 1/4 of the stem; sheath tubular; blade elliptic, acute. **Inflorescence** terminal, from the mature stem, flowers only once, rachis flexuous, ancipitous, each node with a conduplicate, triangular, acute bract. **Flowers** numerous, simultaneous, probably non-resupinate, sepals and petals tan-chocolate, lip white. **Dorsal sepal** spreading, elliptic, square angled, 5-veined. **Lateral sepals** elliptic-ovate, square angled, slightly oblique, 5-veined, the lateral veins bifurcate near the base. **Petals** spreading, cuneate-spatulate, truncate-rounded, 3-veined, the lateral veins bifurcate near the base. **Lip** united to the column, entire, suborbicular, with a low keel running down the middle, ecallose, apical margin sinuate. **Column** straight, thick. **Clinandrium** short, margin erose. **Anther** ovoid, acute, 2-celled. **Pollinia** 2, triangular, laterally compressed; caudicles 2, laminar, ligulate, subacute, longer than the pollinia; viscidium semiliquid, small. **Rostellum** slit.

DISTRIBUTION AND ECOLOGY: Known only from the type. Epiphyte, in cloud forest at about 1500-1900 m altitude. Flowering in July and August.

RECOGNITION: Epidendrum dwyeri belongs to the "Neowilliamsia" group within Epidendrum, which is recognizable by the ancipitous rachis with conduplicate, acute bracts, and the laminar, lorate caudicles with either 2 or 4 pollinia. The suborbicular lip with sinuate apical margin and the spatulate, truncate-rounded petals easily identify this species. The habit is somewhat similar to E. wercklei Schltr., but this species has spotted flowers and a deeply fimbriate lip.

NOTE: Both Garay (1977) and Dressler (1981) recognized the genus Neowilliamsia as a segregate from Epidendrum, though each included different species in it, depending on the number of pollinia. If the genus Epidendrum were to be split up into some 50 genera or more, Neowilliamsia would stand, but then E. dwyeri, E. anoglossum Schltr. and E. cymbiglossum Hágsater would have to be added to the species included in Dressler's concept. It is curious that E. anoglossum, by far the most common of the species of this group, was not included by either Garay or Dressler in Neowilliamsia. The number of pollinia is an easy character to see, but in this case an unreliable one to separate species into natural groups or genera.



CONSERVATION STATUS: Unknown.

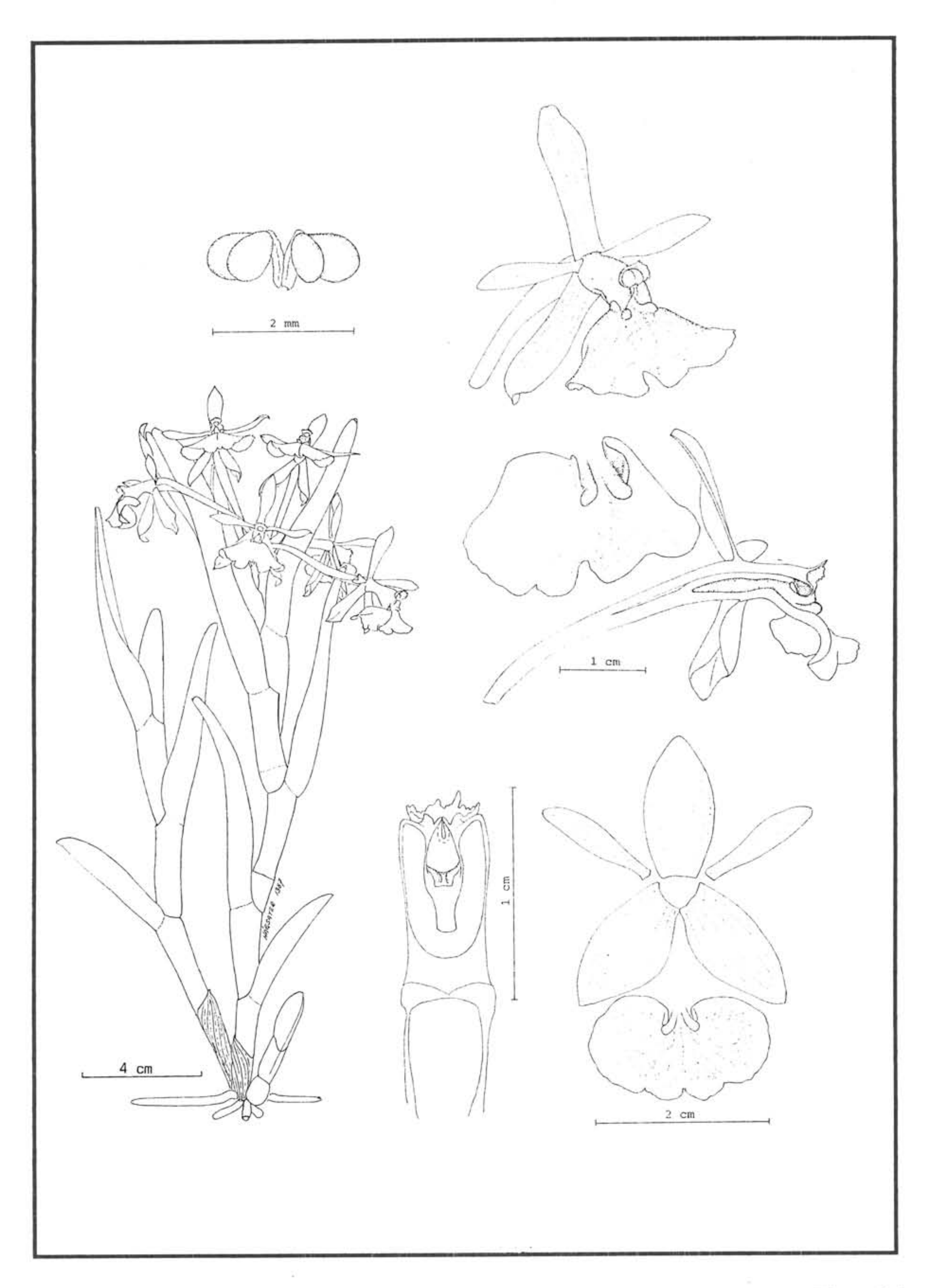
ETYMOLOGY: Named after Dr. John D. Dwyer, Curator Emeritus of the Missouri Botanical Garden, specialist in Central American Rubiaceae, who collected the type specimen.

REFERENCES: Dressler, R.L. 1981. El género Neowilliamsia Garay. **Orquídea (Méx.)** 8(1): 27-36; Garay, L.A. 1977. The subtribe Epidanthinae L.O. Wms. **Orchid Digest** 41(1): 19-22.

Author: E. Hágsater Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM ERECTIFOLIUM Hágsater & L. Sánchez

Text on the reverse side

Plate 131

EPIDENDRUM ERECTIFOLIUM Hágsater *et* L. Sánchez, *sp. nov.*

Holotype: MEXICO: Chiapas: Camino Chiapa de Corzo a Pichucalco, km 33, colecta diciembre 1970, prensado 25 febrero 1982, *E. Hágsater 1387*, AMO! (illustration voucher.) Isotypes: AMES! MEXU! Clonotypes: 20 enero 1977, SEL! 25 enero 1983, ENCB! MO! US! 20 marzo 1984, UVAL! 2 enero 1985, F! NY! PMA! W! 1 enero 1988, K!

Epidendro succulento Hágsater simile, sed differt foliis erectis, caulem fere parallelis, labello trilobato, lobo mediano bilobato, et clinandrio irregulariter eroso.

Hierba epífita, cespitosa, 12-33 cm de alto incluyendo la inflorescencia. **Raíces** basales, carnosas, 2-3.5 mm de grosor. **Tallo** sencillo, tipo caña, terete, ligeramente flexuoso, 4-26 cm de largo. **Hojas** 3-8, equidistantes a lo largo del tallo, erectas; vaina tubular, lisa; lámina angostamente elíptico-lanceolada, desigualmente bilobada, margen entero, subcoriáceo-suculenta, lisa, verde, 4-11 x 1.8-2.6 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, pedunculada, subumbelada. **Bráctea floral** mucho más corta que el ovario, ovada, hasta 17 mm de largo, generalmente mucho más pequeña. **Flores** 9-11, resupinadas, simultáneas, con fragancia débil, diurna, herbácea; sépalos y pétalos verde amarillento, columna y labelo verde brillante. **Ovario** inflado detras del perianto, terete, no ornamentado, 30-45 mm de largo. **Sépalos** carnosos, glabros, extendidos, libres, con quilla dorsal inconspicua. **Sépalo dorsal** elíptico, redondeado, márgenes ligeramente revolutos, 5-nervado, los nervios laterales con una subdivisión, 15-19 x 7-8 mm. **Sépalos laterales** elípticos, agudos, márgenes laterales revolutos, 6-7 nervados, 15-19 x 7.5-8 mm. **Pétalos** extendidos, membranáceos, angostamente elípticos a oblanceolados, obtusos, márgenes extendidos, 3-nervados, 15-16 x 2-4 mm. **Labelo** unido a la columna, trilobado, bicalloso, engrosado en el centro formando una carina central muy baja, carnoso, 12 x 20 mm; lóbulos laterales semiorbiculares, enteros; lóbulo medio corto y ancho, a su vez bilobado, los lóbulos prominentes, semiorbiculares. **Columna** recta, delgada, 8-10 mm de largo. **Clinandrio** dilatado, prominente, obcónico, margen eroso. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, más cortas que los polinios; viscidio viscoso, translúcido. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, de un tercio del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando 1/5 del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose **herb**. **Stems** reed-like, terete, slightly flexuous. **Leaves** 3-8, erect, narrowly elliptic to lanceolate, apex unequaly bilobed, subcoriaceous-succulent. **Inflorescence** terminal, flowers only once, subumbellate. **Flowers** 9-11, simultaneous, resupinate, sepals and petals yellowish-green, column and lip green. **Sepals** fleshy, glabrous, spreading, free. **Dorsal sepal** elliptic, rounded, margins revolute, 5-veined. **Lateral sepals** elliptic, acute, margins slightly revolute, 6-7-veined. **Petals** membranaceous, spreading, narrowly elliptic to oblanceolate, obtuse, margins spreading, 3-veined. **Lip** united to the column, 3-lobed, bicallose, with a central keel; lateral lobes semiorbicular; midlobe short and wide, bilobulate, the lobules prominent, semiorbicular. **Column** straight. **Clinandrium** prominent, obconical, margin erose. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose; viscidium viscose, translucent. **Rostellum** slit. **Lateral stigma lobes** small, about 1/3 of the length of the stigmatic cavity. **Nectary** penetrating 1/5 of the ovary, unornamented.

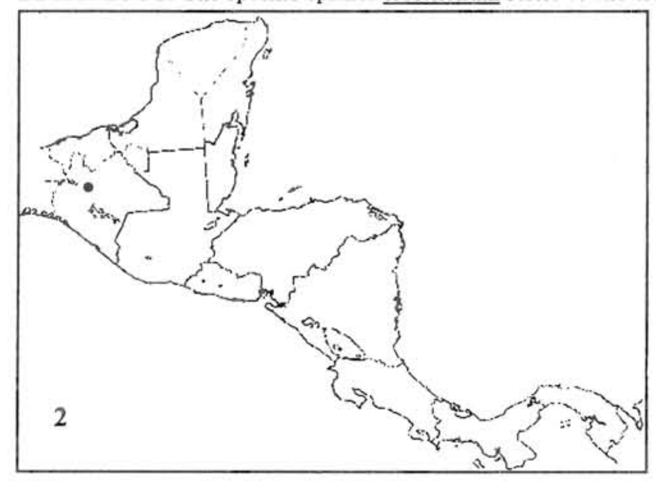
OTHER SPECIMENS: MEXICO: Chiapas: del Rio 34, AMO! Leleu sub Sánchez 272, AMO!

DISTRIBUTION AND ECOLOGY: Known only from the Central Plateau of Chiapas, México, but probably also in Guatemala. Epiphyte, from 1000 to 1600 m altitude. Flowering from December to March.

RECOGNITION Epidendrum erectifolium, a member of the E. difforme Jacq. complex, can be recognized by the fleshy, erect leaves, 9-11 flowers, 3-lobed lip with the midlobe bilobed, and clinandrium obconical with erose margin. It is similar to E. succulentum Hágsater, but the latter has spreading leaves, cordiform, acute lip, and fimbriate clinandrium. Epidendrum romanii Hágsater & Dodson, an Ecuadorean species, is also similar in habit and general shape of the lip, but in that species the leaves diverge noticeably from the stem and the petals are proportionately wider, broadly rounded.

CONSERVATION STATUS: Undetermined.

ETYMOLOGY: The specific epithet erectifolium refers to the erect leaves, which are almost parallel to the stems.

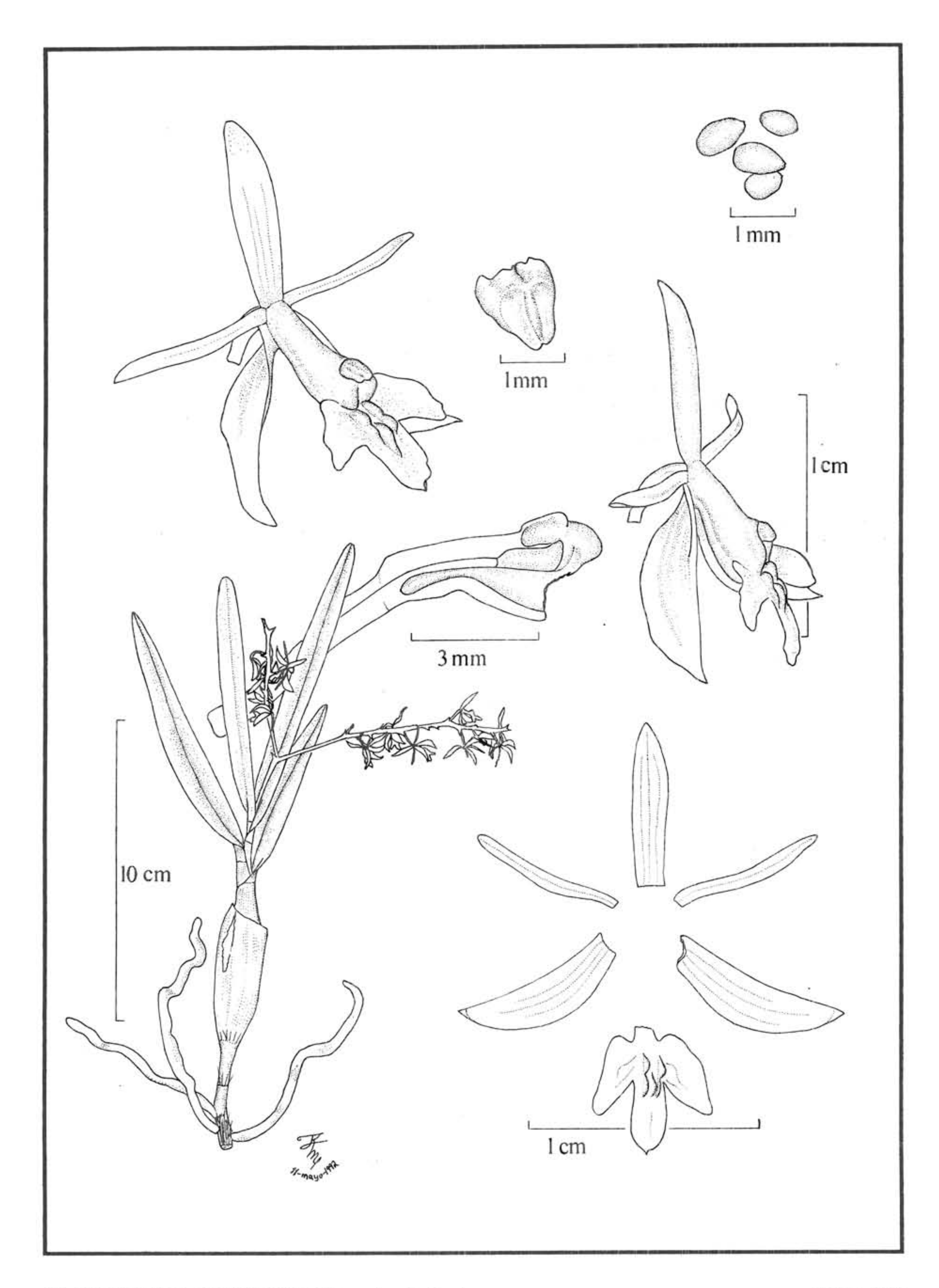


REFERENCE: Hágsater, E. 1988. Epidendra nova et criticae 4: nuevas especies del complejo Epidendrum difforme de México y Centroamérica. Orquídea (Méx.) 11: 23-50.

Author: E. Hágsater & L. Sánchez   Illustrator: E. Hágsater   Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM ERIKSENII Hágsater & Dodson

Text on the reverse side

Plate 132

EPIDENDRUM ERIKSENII Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Prov. Loja: Road Velacruz-Olmedo, ca. km 2, 2030 m, 11 Mar. 1989, *B. Oellgaard, L. Ellemann & B. Eriksen 90939*, QCA! Isotype: AAU! (illustration voucher.)

Epidendro puro Lindl. simile, sed caulibus pseudobulbis fusiformes formantibus, sepalis acutis, columna recurvata.

Hierba epífita, ca. 21 cm de alto. **Raíces** basales, carnosas, gruesas, 2-3 mm de grosor. **Tallo** sencillo, engrosado, formando un seudobulbo fusiforme, pedicelado, recto, 9 cm de largo, 1.2 cm de grosor en la parte media, envuelto por vainas papiráceas de ca. 4 cm de largo; pedicelo de 3 cm de largo y 2 mm de grosor. **Hojas** 4, agrupadas hacia el ápice del pseudobulbo; vaina tubular, lisa, hasta 1.5-2 cm de largo; lámina angostamente lanceolado-elíptica, obtusa, apiculada, margen entero, lisa, verde, 6-10.5 x 0.7-1.2 cm. **Inflorescencia** terminal, del seudobulbo maduro, florece una sola vez, paniculada, erecta, 10 cm de largo; pedúnculo terete, sin espata, sin brácteas. **Bráctea floral** de menos de la mitad del largo del ovario, triangular, acuminada, 1.5-2 mm de largo. **Flores** ca. 20, simultáneas, resupinadas; coloración "blanco-verdosa". **Ovario** inflado en la mitad apical, terete, no ornamentado, 5-7 mm de largo. **Sépalos** extendidos, libres, con quilla dorsal inconspicua en los laterales, glabros, membranáceos. **Sépalo dorsal** angostamente elíptico, agudo, márgenes extendidos, 3-nervado, 7-8 x 1.8 mm. **Sépalos laterales** angostamente elípticos, falcados, agudos, márgenes extendidos, 3-nervados, 8-9 x 2.5 mm. **Pétalos** extendidos, sublineares, redondeados, márgenes extendidos, membranáceos, uninervados, 8 x 0.8 mm. **Labelo** unido a la columna, cordado en la base, trilobado, bicalloso, con tres quillas cortas en la base del lóbulo medio, membranáceo, márgenes enteros, ca. 5 x 6 mm (ancho entre los ápices de los lóbulos laterales); lóbulos laterales triangulares; lóbulo medio oblongo, apiculado. **Columna** ligeramente recurvada en el ápice, deflexa en la base con respecto del ovario, delgada, 5 mm de largo incluyendo el clinandrio. **Clinandrio** muy corto, margen entero. **Antera** ovoide, 4-locular. **Polinios** 4, semiobovoides, lateralmente comprimidos. **Rostelo** apical, hendido. **Nectario** poco profundo, penetrando sólo hasta la base del perianto, liso interiormente. **Cápsula** no vista.

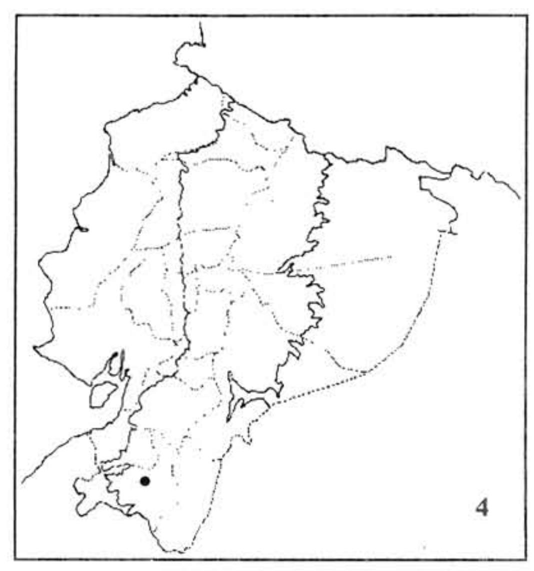
Epiphytic **herb**. **Roots** basal, fleshy. **Stem** simple, thickened into a fusiform, pedicellate pseudobulb enveloped by papery sheaths. **Leaves** 4, clustered near the apex of the pseudobulb; sheath tubular, smooth; blade narrowly lanceolate-elliptic, obtuse, apiculate. **Inflorescence** terminal, from the mature pseudobulb, flowers only once, paniculate, erect; peduncle terete. **Floral bracts** less than a half the length of the ovary, triangular, acuminate. **Flowers** ca. 20, simultaneous, resupinate, "greenish-white". **Ovary** inflated in the apical half, terete. **Sepals** spreading, free, with an inconspicuous dorsal keel on the laterals, glabrous, membranaceous, narrowly elliptic, acute, margins spreading, 3-veined, laterals somewhat falcate. **Petals** spreading, sublinear, rounded, margins entire, membranaceous, 1-veined. **Lip** united to the column, 3-lobed, bicallose, with 3 short keels at the base of the midlobe, membranaceous, base cordate, margins entire; lateral lobes triangular; midlobe oblong, apiculate. **Column** slightly recurved at the apex, deflexed at the base with respect to the ovary, thin. **Clinandrium** short, entire. **Anther** ovoid, 4-celled. **Pollinia** 4, semiobovoid, laterally compressed. **Rostellum** apical, slit. **Nectary** shallow, penetrating to the base of the perianth, smooth.

DISTRIBUTION AND ECOLOGY: Known only from the type. Epiphyte, in secondary scrub, pastures and remnants of dry forest at 2030 m altitude. Flowering in February and March.

RECOGNITION: Epidendrum eriksenii is closely related to E. purum Lindl. but has much smaller, thickened, pseudobulbous stems and acute (not acuminate) floral segments. The column is somewhat sigmoid when seen together with the ovary, the apex upturned, instead of being arcuate downwards.

CONSERVATION STATUS: Unknown.

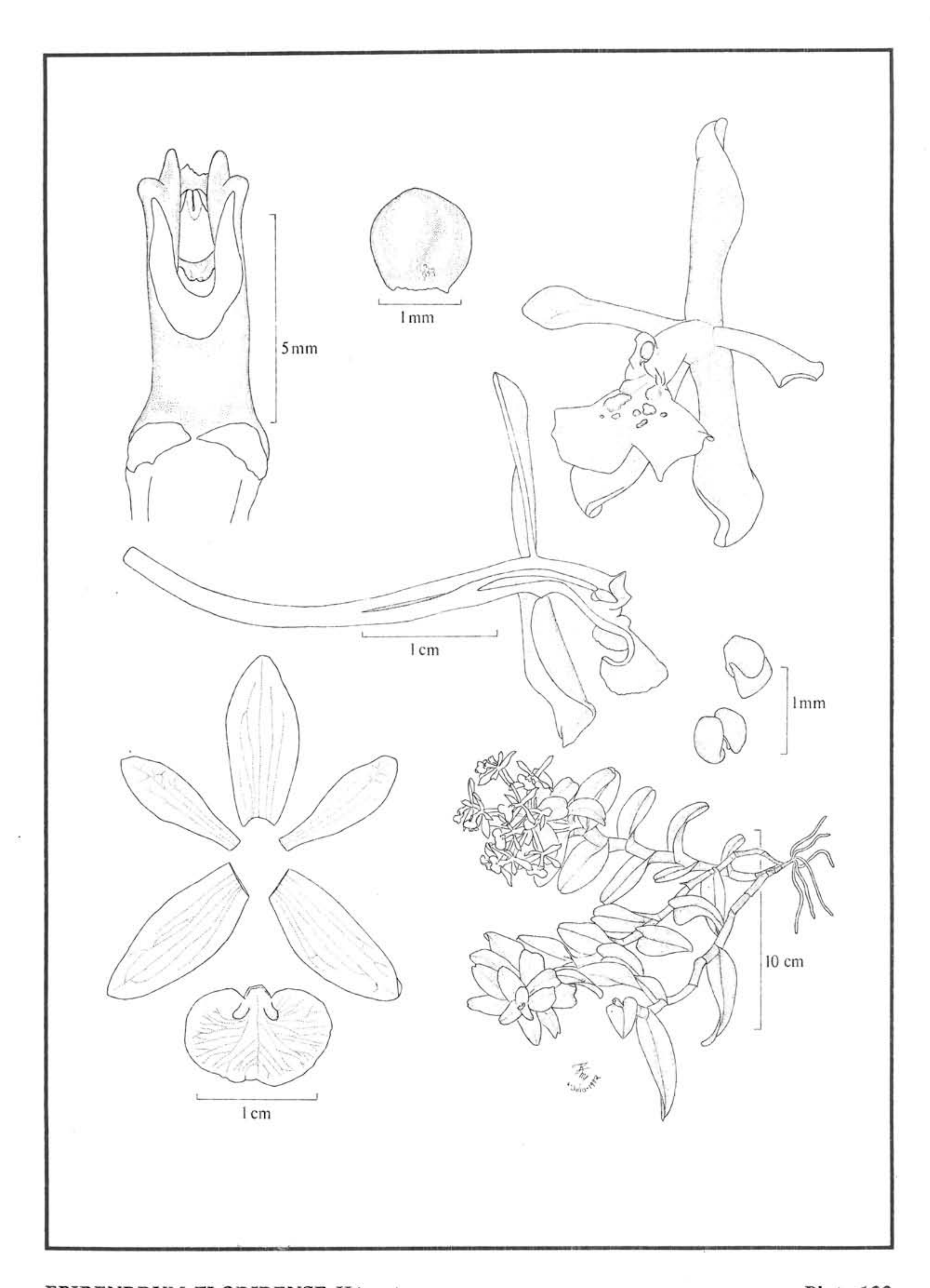
ETYMOLOGY: In honor of Bjorn Eriksen, a member of the Aarhus team of collectors in Ecuador.



Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM FLORIDENSE Hágsater

Text on the reverse side

Plate 133

EPIDENDRUM FLORIDENSE Hágsater, *sp. nov.*

Holotype: U.S.A.: Florida: Fahkahatchee Swamp, pressed 3 July 1992, *J. Corder sub E. Hágsater 10869*, AMO! (illustration voucher.)

Epidendro boricuariis Hágsater & L. Sánchez simile, sed differt caulibus teretibus, labello cordato, emarginato, columna recta , dente apicali utroque columnae latere, et clinandrio eroso.

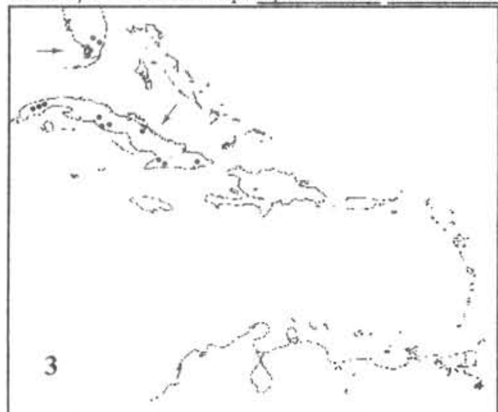
Hierba epífita, cespitosa, 6-26 cm de alto. **Raíces** basales, carnosas, 1-2 mm de grosor. **Tallo** sencillo, terete, flexuoso, 5-23 cm de largo. **Hojas** 4-10, equidistantes a lo largo del tallo; vaina tubular, lisa, 8-25 mm de largo; lámina coriácea, angostamente elíptica, ápice bilobado, color verde brillante, 2-6.7 x 0.7-2.3 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, subumbelada, cortamente pedunculada. **Bráctea floral** más corta que el ovario, triangular a ovada, hasta 12 mm de largo. **Flores** 4-14, simultáneas, resupinadas, verdes. **Ovario** no inflado, terete, no ornamentado, 22-28 mm de largo. **Sépalos** subcoriáceos, glabros, extendidos, angostamente obovado-elípticos, agudos a redondeados, los laterales algo falcados, con una quilla dorsal apical poco prominente, márgenes enteros, revolutos, 5-nervados, 12-15 x 3-5 mm. **Pétalos** membranáceos, oblanceolados, agudos, márgenes enteros, revolutos, extendidos en el ápice, 3-nervados, 11-22 x 2-2.5 mm. **Labelo** unido a la columna, entero, cordado, bicalloso, los callos cortos, redondeados, márgenes enteros, ápice emarginado, 5-9 x 9-18.5 mm. **Columna** recta, con un diente rectangular, amplio a cada lado del ápice, 7-8.5 mm de largo. **Clinandrio** corto, obcónico, entero, margen ligeramente eroso. **Antera** suborbicular, con un pico al frente, 4-locular. **Polinios** 4, semiovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, más cortas que los polinios; viscidio viscoso, translúcido. **Rostelo** subapical, hendido. **Nectario** poco profundo, penetrando algo menos de 1/4 del ovario. **Cápsula** subglobosa, 16-20 x 10-13 mm, con pedicelo delgado de ca. 20 mm de largo.

Epiphytic, caespitose herb. **Stems** terete, flexuous. **Leaves** 4-10, narrowly elliptic, apex bilobed, subcoriaceous, bright green. **Inflorescence** terminal, flowers only once, subumbellate, shortly pedunculate. **Flowers** 4-14, simultaneous, resupinate, green. **Ovary** terete. **Sepals** subcoriaceous, glabrous, spreading, narrowly obovate-elliptic, acute to rounded, the laterals somewhat falcate, with a slight dorsal-apical keel, margins entire, revolute, 5-veined. **Petals** membranaceous, oblanceolate, acute, margins entire, revolute, spreading at the apex, 3-veined. **Lip** united to the column, entire, cordiform, bicallose, the calli short, rounded, margin entire, apex emarginate. **Column** straight, with a wide, obtuse tooth on each side at the apex. **Clinandrium** short, entire, obconical, margin slightly erose. **Anther** subglobose, with a prominent beak in front, 4-celled. **Pollinia** 4, subovoid, laterally compressed; caudicles soft and granulose, much shorter than the pollinia; viscidium viscous, translucent. **Rostellum** subapical, slit. **Nectary** penetrating less than 1/4 of the ovary. **Capsule** subglobose with a long, thin pedicel.

OTHER SPECIMENS: U.S.A.: Florida: Arnold & Crevasse s.n., FLAS(x3)! Eaton s.n., K! Eaton 1366, L! Garber 182, NY! US! Grace & Jennings s.n., CM! Moldenke 5615, NY! Safford & Mosier 118, US! Scull s.n., FLAS! Small s.n., NY! Small et al. s.n., NY! Small 7379, NY! 8245, NY! Small & Small 4175, NY! US! Standley 12991, US! Ward & Beckner 5367, FLAS! CUBA: **Camagüey**: Combs 644, AMES! P! Shafer 603, AMES! US! **Granma**: Bisse et al. 40453, HAJB! Hágsater 10517, AMO! **Oriente**: Borhidi & Muñiz s.n., BUD! López 2853, HAC! HAJB! **Pinar del Río**: Acuña 9930, HAC! Alain 2750, HAC! Ames & Leavitt s.n., AMES! Bisse et al. 26406, HAJB! Palmer & Riley 315, US! **Santa Clara**: Borg 11112, HAC! Britton & Wilson 5410, AMES! Howard 4658, AMES! Jack 6456, AMES! 8062, AMES! 8569, AMES! León & Roca 7900, HAC! Smith et al. 3220, AMES! 3325, AMES! **Las Villas**: Acuña 22968, HAC! Bisse & Lippold 19739, HAJB!

DISTRIBUTION AND ECOLOGY: U.S.A.: Florida: Broward, Collier, Dade, Lee, Monroe and Palm Beach counties; in and around the Everglades; widespread in Cuba. Epiphytic on Taxodium distichum, Conocarpus erecta, Annona glabra, Fraxinus caroliniana and Acer rubrum. From near sea level to 1000 m altitude. Flowering in late summer, from August to October, fruiting from October to April. Nectar is often produced and overflows from the nectary onto the lip in front of the calli. Pollinated by nocturnal moths of the species Lymire edwardsii (Goss 1973).

RECOGNITION: This species is a member of the E. difforme Jacq. complex and can be recognized by the terete stems, cordate, emarginate lip, short, rounded calli, straight column with an obtuse tooth at each side of the apex, and clinandrium short, obconical, with erose margin . It is similar to E. orientale Hágsater & M.A. Díaz, a Cuban species, which has smaller plants (5-14.7 cm high), 4-6 simultaneous flowers, deeply emarginate lip with divaricate calli, and clinandrium irregularly dentate. Epidendrum boricuarum Hágsater & L. Sánchez, a Puerto Rican species, has laterally compressed stems, 4-8 flowers, and 3-lobed lip. Epidendrum umbellatum Sw., found in north-eastern Cuba at 1200 m altitude, has vigorous plants, laterally compressed stems, narrowly oblanceolate petals and 3-lobed lip deeply bilobed at the apex. In cultivation the inflorescences of E. floridense sometimes produce a rosette of abnormally large, leaf-like floral bracts.



CONSERVATION STATUS: Endangered in Florida. Unfortunately it appears that this species is now nearly extinct in Florida due to frosts in 1983 and 1989. Not threatened in Cuba.

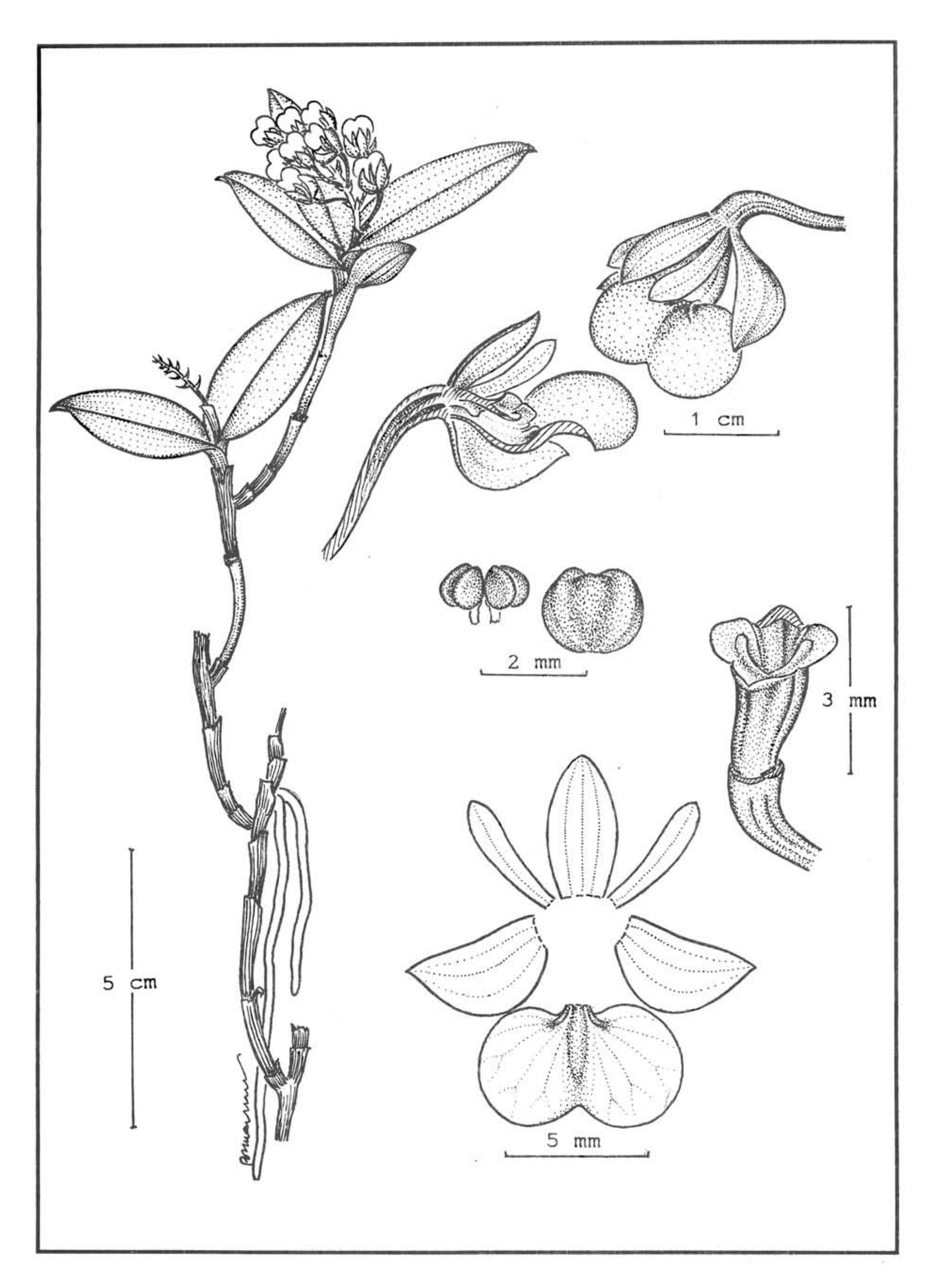
ETYMOLOGY: The epithet floridense refers to the state of Florida (U.S.A.), where the species was originally found.

REFERENCES: Goss, G.J. 1973. Pollination biology in the Orchidaceae: Polystachya flavescens, Epidendrum difforme and Eulophia alta from South Florida; Encyclia gracilis, Encyclia altissima and Encyclia rufa from Great Inagua, Bahamas. Master's Thesis, Florida Atlantic University. Boca Raton, Fla.; Luer, C.A. 1972. The Native Orchids of Florida. New York Botanical Garden. pp. 212-213.

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EPIDENDRUM FOLDATSII Hágsater & Carnevali

Text on the reverse side

EPIDENDRUM FOLDATSII Hágsater *et* Carnevali, *sp. nov.*

Holotype: VENEZUELA: Distrito Federal, Cerro de Avila, 1800 m, 21 agosto 1966, *B.J. Manara 90*, VEN! (illustration voucher.) Isotype: AMO!

Epidendro nephroglosso Schltr. simile, sed differt habitu minore, bracteis brevioribus, floribus parvis, sepalis ca. 5 mm longis, callo duas carinas divergentes formanti.

Hierba epífita, de simpodio erecto donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, 15-30 cm de alto o más. **Raíces** producidas en la base de la planta y ocasionalmente de algún tallo superior, carnosas, 2-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, ligeramente arqueados, 4-10 cm de largo, 2-4 mm de grosor. **Hojas** 2-4, agrupadas hacia el ápice de cada tallo; vaina tubular, 5-20 mm de largo; lámina oblongo-elíptica, subobtusa, margen entero, 2-4.5 x 1.1-1.7 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, arqueada, sin espata. **Bráctea floral** mucho más corta que el ovario, aguda, 1-2 mm de largo. **Flores** ca. 10, simultáneas, resupinadas, color y fragancia no registrados. **Ovario** no inflado, terete, no ornamentado, 5-7 mm de largo. **Sépalos** entreabiertos, libres. **Sépalo** dorsal ovado-elíptico, obtuso, márgenes extendidos, 3-nervado, 4.5-5 x 2.5 mm. **Sépalos laterales** oblicuamente ovados, agudos, el margen exterior casi recto, márgenes extendidos, 3-nervados, 5 x 2.8 mm. **Pétalos** entreabiertos, linear-oblanceolados, obtusos, 1-nervados, 4.5 x 1 mm. **Labelo** unido a la columna, entero, obreniforme, el ápice profundamente emarginado, márgenes enteros, bicalloso, los callos arqueados de manera divergente, formando un engrosamiento frente a la columna, con una quilla carnosa y roma al centro, sin llegar al seno apical, 4 x 7.5 mm. **Columna** ligeramente sigmoide, terminada en un par de prominencias laterales redondeadas, carnosas, 3 mm de largo. **Clinandrio** corto pero cubriendo parcialmente la antera, margen entero. **Antera** subglobosa. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas un poco más largas que los polinios. Nectario y cápsula no vistos.

Epiphytic **herb**, where the new stem is produced from the middle of the previous stem. **Roots** fleshy, from the base of the plant, occasionally from the bases of upper stems. Leaves 2-4, oblong-elliptic, subobtuse; sheath tubular. **Inflorescence** terminal, from the mature stem, arcuate, racemose, flowering only once. **Flowers** ca. 10, simultaneous, resupinate. **Sepals** partly open, dorsal elliptic, laterals obliquely ovate, obtuse, their upper margin straight, 3-veined. **Petals** partly open, linear-oblanceolate, obtuse, 1-veined. **Lip** united to the column, entire, obreniform, deeply emarginate, bicallose, the calli a pair of divergent thickenings in front of the column, with a fleshy, rounded keel running down the middle without reaching the apical sinus. **Column** slightly sigmoid, ending in a pair of lateral, fleshy, rounded processes. **Clinandrium** short but partly covering the anther, entire. **Anther** subglobose. **Pollinia** 4, obovoid, laterally compressed, subequal; caudicles somewhat longer than the pollinia.

DISTRIBUTION AND ECOLOGY: Known only from the type locality, the Cerro de Avila above Caracas.

RECOGNITION: Epidendrum foldatsii belongs to the E. arbuscula Lindl. group, and can be recognized by the simultaneous flowers and the obreniform lip with a deep apical sinus and a pair of divergent calli in front of the column. Material of this species was identified by Foldats (1970) as E. lechleri Rchb. f., a Peruvian species with sepals 13 mm long and a 3-lobed lip. Epidendrum chimantense Hágsater & Carnevali is similar, but differs in having narrower leaves (up to 1 cm wide), lavender to purple leaf sheaths, and larger flowers, the sepals 9-10 mm long.

CONSERVATION STATUS: Unknown. The species has not been collected recently but the type locality is within a National Park, though bush fires sometimes occur.

ETYMOLOGY: Named after the well-known Venezuelan biologist, Dr. Ernesto Foldats, who contributed the Orchidaceae for the Flora of Venezuela, and continues active in the field of orchidology at the Herbario Nacional de Venezuela in Caracas.

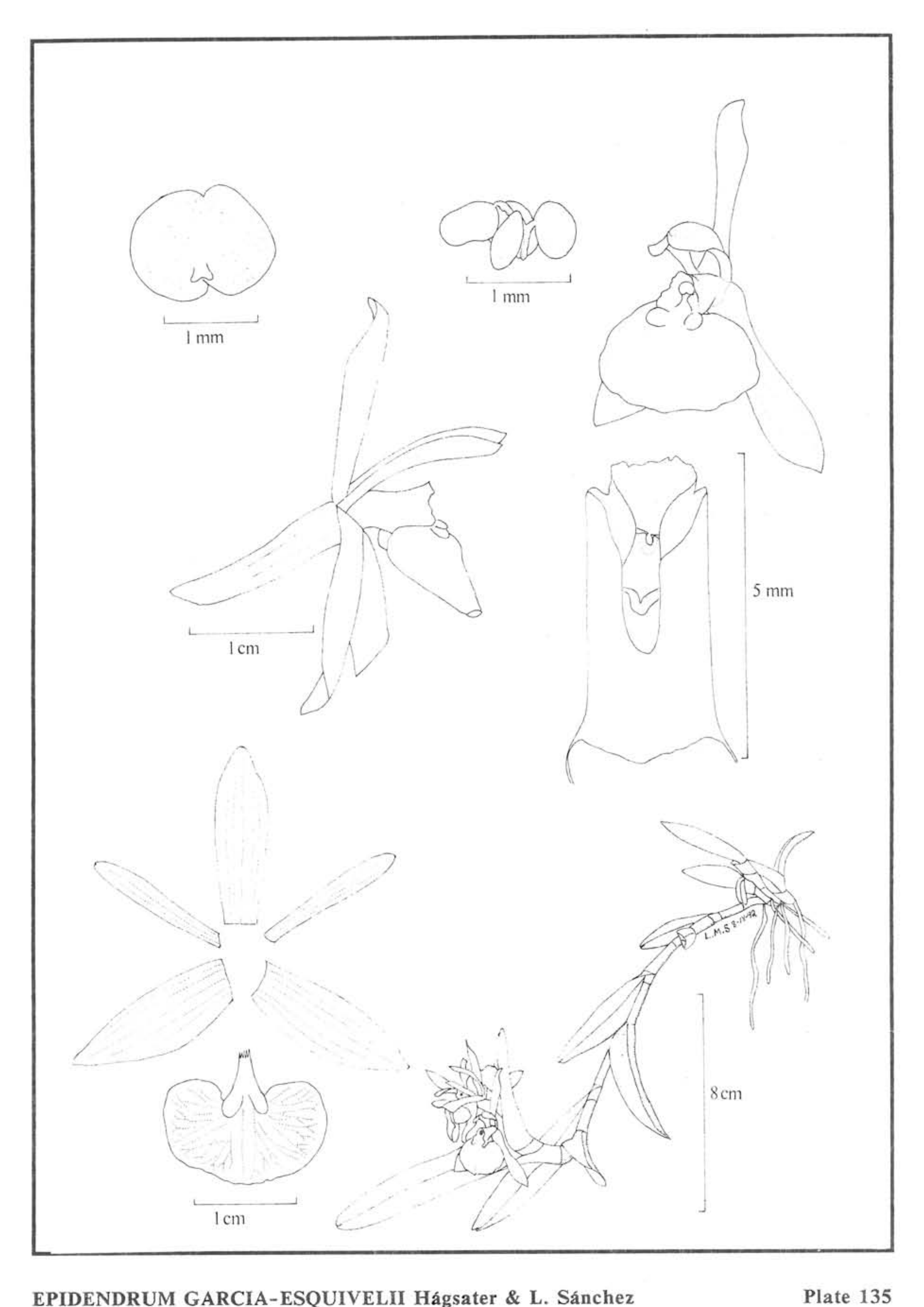


REFERENCES: Foldats, E. 1970. Orchidaceae, in: T. Lasser (ed.), Flora de Venezuela, 15 (3): 297-299, fig. 488 B, the latter based on the original illustration by Bruno Manara published here; Fig. 488 A was prepared from part of the holotype of E. chimantense Hágsater & Carnevali at NY, and the description is a combination of both E. foldatsii and E. chimantense, plus data taken from the description of E. nephroglossum Schltr. provided in: Schweinfurth, C. 1944. Notes in Tropical American orchids II. Bot. Mus. Leafl. 11(8): 217-248.

Authors: E. Hágsater & G. Carnevali Ilustrator: B. Manara Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM GARCIA-ESQUIVELII Hágsater & L. Sánchez

Plate 135

Text on the reverse side

EPIDENDRUM GARCIA-ESQUIVELII Hágsater *et* Sánchez, *sp. nov.*

Holotype: VENEZUELA: Táchira: Represa La Honda, ca. 1000 m, prensado 8 septiembre 1992, *C. García Esquivel sub E. Hágsater 10872*, AMO! (illustration voucher.)

Epidendro scharfii Hágsater & Dodson simile, sed differt caulibus lateraliter compressis, foliis anguste ellipticis, labello integro, callis prominentibus, ovoideis, columna prominentiis apicalibus lateralibus rotundatis brevibus integris provisa, clinandrio obconico, crenulato.

Hierba epífita, cespitosa, 20 cm de alto. **Raíces** basales, carnosas, 0.5-0.7 mm de grosor. **Tallo** sencillo, tipo caña, algo comprimido lateralmente, flexuoso, 15 cm de largo. **Hojas** 6-8, equidistantes a lo largo del tallo, coriáceas; vaina lisa, 1-1.8 cm de largo; lámina angostamente elíptica, ápice bilobado, con carina dorsal baja, 2-5.5 x 0.7-1.1 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, sésil. **Bráctea floral** mucho más corta que el ovario. **Ovario** no ornamentado, terete, no inflado, 15 x 2.8 mm. **Flores** 4, simultáneas, resupinadas, con fragancia diurna, agradable, a cítrico, blanco-verdosas. **Sépalos** coriáceos, libres, glabros, extendidos. **Sépalo dorsal** elíptico, agudo, márgenes enteros, algo revolutos, 5-nervado, 17 x 4.5 mm. **Sépalos laterales** oblicuamente elípticos, agudos, márgenes enteros, revolutos, 5-nervados, 17 x 5.5 mm. **Pétalos** erectos, oblanceolados, agudos, márgenes enteros, extendidos, 3-nervados, 15 x 2 mm. **Labelo** unido a la columna, entero, reniforme, subcoriáceo, bicalloso, los callos prominentes, ovoides, con una carina central baja, márgenes y ápice enteros, 10 x 15 mm. **Columna** recta, 6.7-7 mm de largo, con una prominencia redondeada, corta, entera, a cada lado del ápice. **Clinandrio** prominente, entero, obcónico, margen crenulado. **Antera** ovoide, con un pico romo al frente, 4-locular. **Polinios** 4, obovoides, subiguales, lateralmente comprimidos; caudículas suaves y granulosas, tan largas como los polinios; viscidio viscoso, translúcido. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** cortos, de 1/3 del largo de la cavidad estigmática. **Nectario y cápsula** no vistos.

Epiphytic, caespitose **herb**. **Stem** reed-like, somewhat compressed laterally, flexuous. **Leaves** 6-8, coriaceous, narrowly elliptic, apex bilobed, slightly carinate dorsally. **Inflorescence** terminal, flowers only once, sessile. **Flowers** 4, resupinate, simultaneous, fragrant, greenish-white. **Ovary** unornamented, terete, not inflated. **Sepals** coriaceous, free, glabrous, spreading, prominently keeled dorsally. **Dorsal sepal** elliptic, acute, margins entire, somewhat revolute, 5-veined. **Lateral sepals** obliquely elliptic, acute, margins entire, revolute, 5-veined. **Petals** erect, oblanceolate, acute, margins entire, spreading, 3-veined. **Lip** united to the column, entire, reniform, subcoriaceous, bicallose, the calli prominent, ovoid, margins and apex entire. **Column** straight, with lateral-apical, rounded, short processes. **Clinandrium** prominent, obconical, margin crenulate. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, subequal, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent. **Rostellum** apical, slit. **Lateral stigma lobes** short, about 1/3 of the stigmatic cavity.

DISTRIBUTION AND ECOLOGY: Known only from the type. Epiphyte at ca. 1000 m altitude. Flowering in September.

RECOGNITION: This species is a member of the E. difforme Jacq. complex, and can be recognized by the somewhat laterally compressed stems, narrowly elliptic leaves, greenish-white flowers, entire lip with prominent, ovoid calli, column with rounded, lateral processes at the apex, and obconical, crenulate clinandrium. Epidendrum scharfii Hágsater & Dodson is similar but has terete stems, inflated ovary, shorter, subglobose calli, arcuate column, and erose-dentate clinandrium.

CONSERVATION STATUS: Unknown.

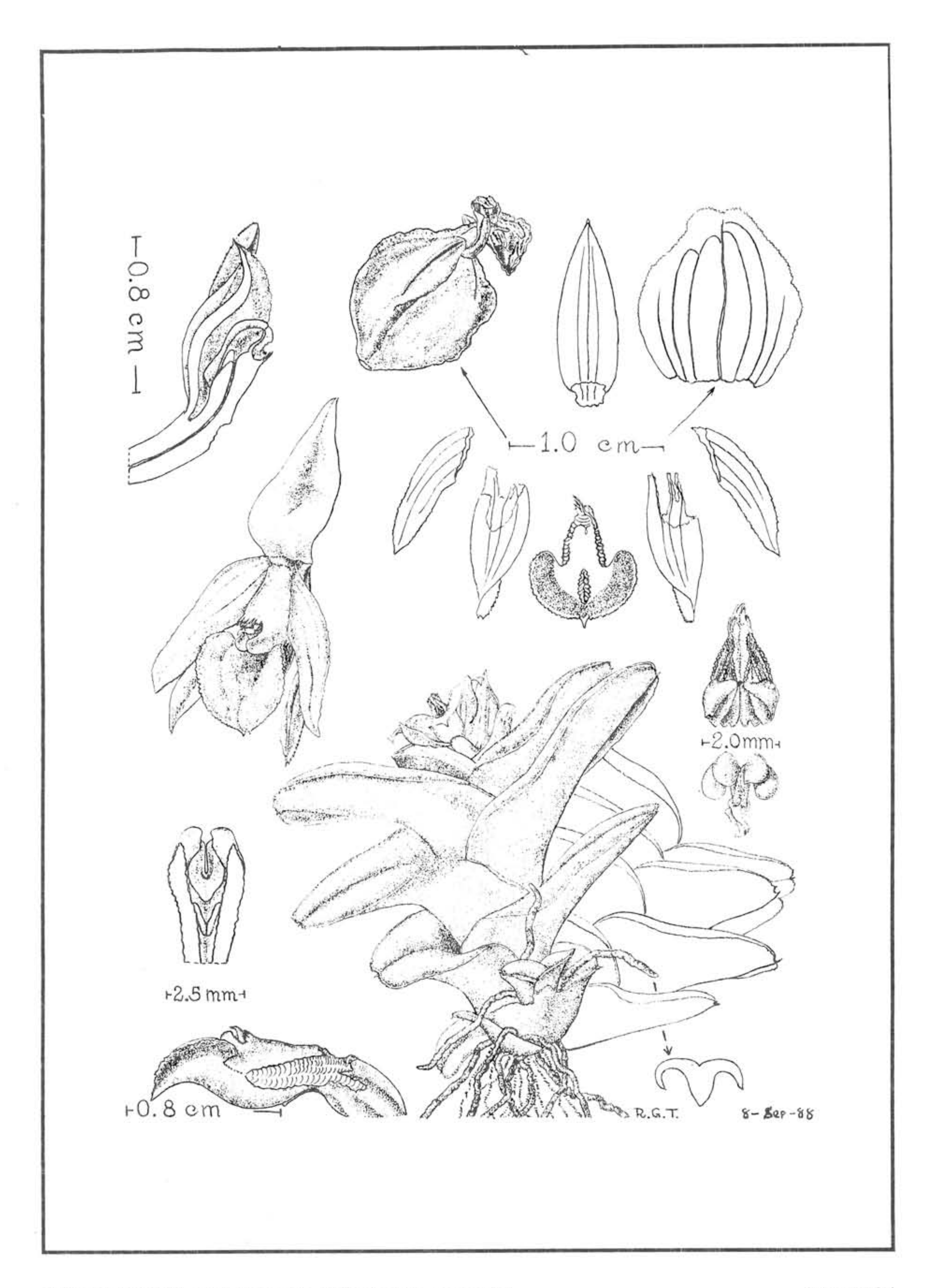
ETYMOLOGY: Dedicated to Dr. Carlos García Esquivel, orchid grower of Caracas, Venezuela, who provided the original plant.



Authors: E. Hágsater & L. Sánchez Ilustrator: L. Sánchez Editors: E. Hágsater & G. A. Salazar

Herbario de la Asociación Mexicana de Orquideología, A.C.

Apartado Postal 53-123, 11320 México, D.F., MEXICO



EPIDENDRUM GONZALEZ-TAMAYOI Hágsater

Text on the reverse side

Plate 136

EPIDENDRUM GONZALEZ-TAMAYOI Hágsater, *sp. nov.*

Holotype: MEXICO: Jalisco: Cuautitlán: km 16 camino Cuautitlán-Ayotitlán, 820 m, prensado en cultivo 3 diciembre 1990, *R. González Tamayo sub E. Hágsater 9951*, AMO! Clonotype: 12 septiembre 1991, AMES!

Epidendro schlecteriano Ames simile, sed floribus minoribus, ex purpureo viridibus, antherae apice profunde lacerato.

Hierba epífita, cespitosa, compacta, densa, con rizomas cortos de ca. 4 mm de largo. **Raíces** filiformes, 0.6-1.5 mm de grosor. **Tallos** erectos, totalmente envueltos y ocultos por las hojas, 2.5-6 cm de largo. **Hojas** 6-12, imbricadas, suculentas, no articuladas, ovadas, ápice bilobado, aristado, margen apical diminutamente eroso-fimbriado, dorsalmente carinadas, color verde con márgenes amoratados hasta casi totalmente morada cuando expuestas directamente al sol, 1-2 x 0.8-1.3 cm. **Inflorescencia** terminal, florece una sola vez, sesil. **Brácteas florales** iguales a las hojas, progresivamente reducidas, la menor conduplicada. **Flores** casi siempre 2, simultáneas, resupinadas, verdes, los segmentos más o menos teñidos de morado-rojizo, ápice de la columna y antera morados, con fragancia nocturna a hipoclorito de calcio. **Ovario** trígono, 7-8 mm de largo. **Sépalo dorsal** reflexo, ovado-lanceolado, agudo, 3-nervado, membranáceo, dorsalmente carinado hacia el ápice y éste finamente denticulado, 10-13 x 3-4.5 mm. **Sépalos laterales** ovado-lanceolados, agudos, oblicuos, 3-nervados, membranáceos, fuertemente carinados dorsalmente, unidos a la base de la columna, los márgenes y la quilla algo denticulados, 9-12.5 x 2-4 mm. **Pétalos** angostamente lanceolados, agudos, oblicuos, 3-nervados, márgenes algo erosos, 9-10 x 1.5-3.3 mm. **Labelo** unido a la columna, entero, profundamente cordiforme, apiculado, suculento, los márgenes erosos, superficie granulosa dándole un aspecto mate, ecalloso y sin carina central, 5-6 x 7-8 mm. **Columna** recta, deflexa en la base respecto al ovario, terminada en dos lóbulos laterales apicales redondeados, carnosos, 5-6 mm de largo incluidos los lóbulos. **Clinandrio** irregularmente dentado a lacerado. **Antera** 4-locular, terminada en una lámina prominente profundamente lacerada. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas granulosas, algo más cortas que los polinios; viscídio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** prominentes, de la mitad del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando menos de 1/4 del ovario. **Cápsula** elipsoide-globosa, trialada, sésil, 10 x 8 mm, el ápice provisto de un pico corto.

Herb epiphytic, compact, dense. **Roots** filiform. **Stems** erect, totally covered by the leaves. **Leaves** imbricating, succulent, not articulate, ovate, bilobed, aristate, apical margins minutely erose-fimbriate, dorsally carinate, green with purple margins to completely purple when exposed to direct sunlight. **Inflorescence** terminal, flowers only once, sessile. **Floral bracts** leaf-like, the smallest conduplicate. **Flowers** nearly always 2, simultaneous, resupinate, green, the segments more or less reddish-purple, apex of column and anther purple, with nocturnal fragrance of calcium hypochlorite. **Ovary** trigonous. **Sepals** ovate-lanceolate, acute, 3-veined, membranaceous, dorsally carinate and finely denticulate; dorsal sepal reflexed; lateral sepals united to the base of the column. **Petals** narrowly lanceolate, acute, oblique, 3-veined, margins erose. **Lip** united to the column, entire, deeply cordiform, apiculate, succulent, ecallose, ecarinate, margins erose, surface granulose, dull. **Column** straight, deflexed at the base with respect to the ovary, ending in two lateral, rounded, fleshy lobes. **Clinandrium** irregularly dentate to lacerate. **Anther** 4-celled, ending in a deeply lacerate blade. **Pollinia** 4, obovoid, laterally compressed, subequal; caudicles granulose; viscidium semiliquid, transparent. **Rostellum** subapical, slit. **Nectary** shallow, penetrating less than 1/4 of the ovary. **Capsule** ellipsoid-globose, 3-winged, with an apical beak.

OTHER SPECIMENS: MEXICO: Guerrero: González sub Östlund 1722, AMES(x2)! US! Nagel & González sub Östlund 3277, AMES! Roezl s.n., W! Jalisco: Pérez de la Rosa 1033, IBUG! Oaxaca: Nagel & González sub Östlund 6064, AMES(x2)! US!

OTHER RECORDS: MEXICO: Nayarit: Parra-Hake (in Pollard's notes), AMO!

DISTRIBUTION AND ECOLOGY: Endemic to Mexico, on the Pacific slope of the Sierra Madre del Sur, in the states of Nayarit, Jalisco, Guerrero and Oaxaca. On oaks in open, warm oak forest from 700 to 1100 m altitude. Flowering from September to November.

RECOGNITION: This species is closely related to E. schlechterianum Ames, which is apparently endemic to Central Panama and has concolorous, purple flowers, with the sepals 18-20 mm long. Epidendrum congestoides Ames & C. Schweinf. has glaucous-green leaves on stems up to 7 cm long, 2 flowers per inflorescence, and sepals 9-13 mm long. Epidendrum congestum Rolfe has somewhat shorter plants, 3-4 flowered inflorescences and sepals 6-7 mm long. Epidendrum gonzalez-tamayoi has short, compact plants, the leaves brilliant green suffused with purple, 2 flowers and sepals 9-12.5 mm long.

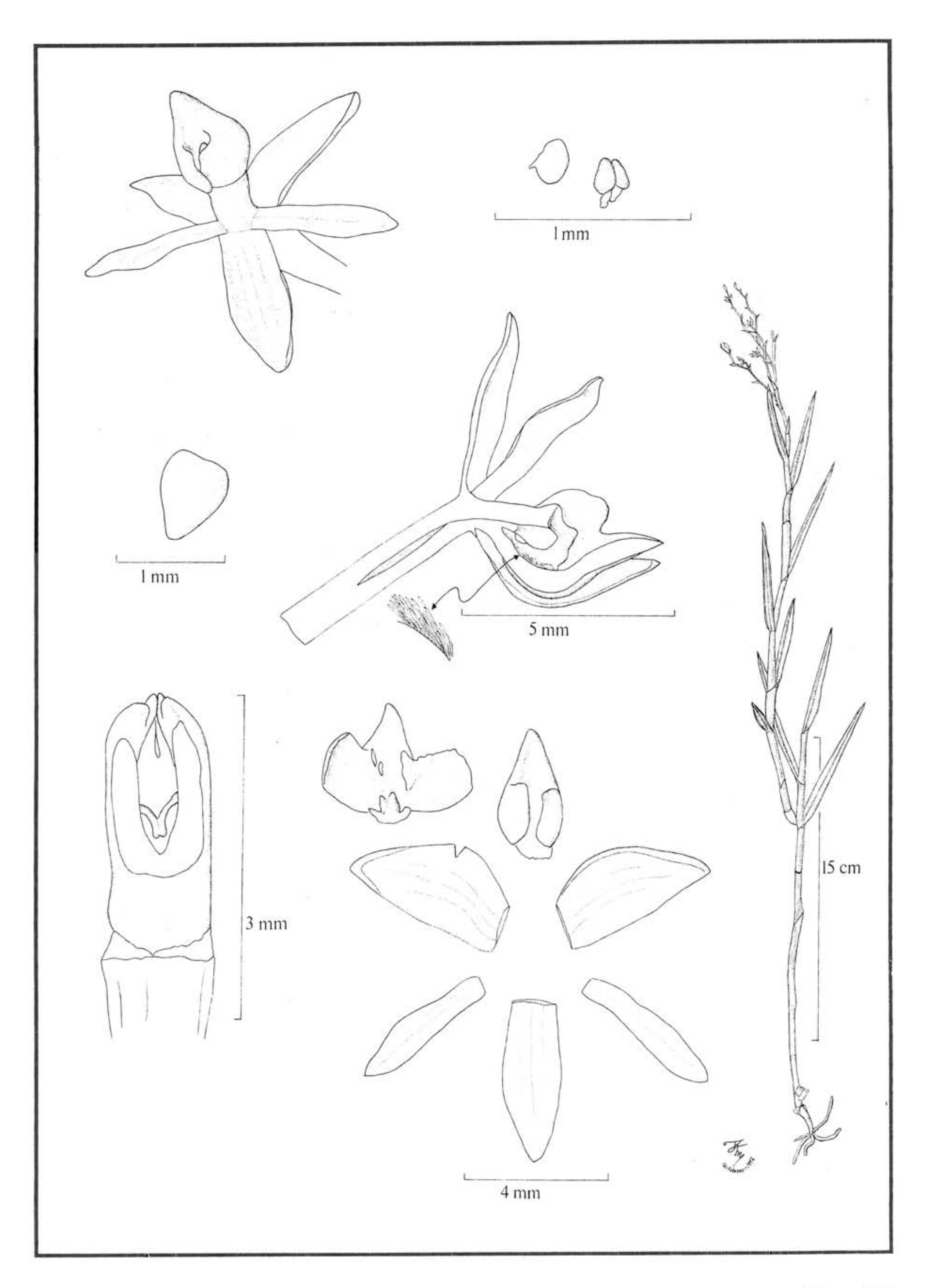
CONSERVATION STATUS: Vulnerable. The habitat of this species is endangered throughout its range due to agriculture and charcoal production, though the species is widespread.

ETYMOLOGY: Named in honor of Roberto González Tamayo, who has dedicated a major part of his life to the study of the orchids of Jalisco, collecting, illustrating and describing them. His illustrations highlighted Rogers McVaugh's treatment of the Orchidaceae in Flora Novo-Galiciana. Presently with the Instituto de Botánica, Universidad de Guadalajara (IBUG), he has been associated with the AMO Herbarium since its foundation.

Author: E. Hágsater Ilustrator: R. González Tamayo Editors: E. Hágsater & G. A. Salazar

Herbario de la Asociación Mexicana de Orquideología, A.C.

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EPIDENDRUM GRAYI Hágsater & Dodson

Text on the reverse side

Plate 137

EPIDENDRUM GRAYI Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Esmeraldas: km 12-15, Lita to Alto Tambo, on boulders in river, 800 m, Febuary 1987, *A. Hirtz 3289*, RPSC! (illustration voucher.) Isotype: (flowers in liquid) AMO!

Epidendro pilcuensi Hágsater & Dodson simile, sed differt statura plantarum multo minore, foliis lineari-lanceolatis, symmetricis, marginibus revolutis, integris, caulibus ramificantibus, labello glabro.

Hierba litófita, cespitosa, ca. 45 cm de alto. Raíces carnosas, de la base del tallo principal, 2.5-3 mm de grosor. **Tallos** erectos, teretes, ramificados cuando maduros cerca del ápice, tipo caña, ca. 18 x 0.2-0.3 mm. **Hojas** distribuidas a lo largo del tallo; vaina tubular, rugosa, 1.1-2.3 cm de largo; lámina linear-lanceolada, simétrica, aguda, márgenes enteros, revolutos, 4-6.3 x 0.4-0.6 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, paniculada, erecta, 9 cm de largo, sin espata, sin bráctea basal, pero con una bráctea en el nudo inferior. **Brácteas florales** pequeñas, mucho más cortas que el ovario, extendidas, ovado-triangulares, agudas, 2.5-4 mm de largo. **Ovario** delgado, no inflado, no ornamentado, 5 mm de largo. **Flores** ca. 20, no resupinadas, sucesivas, poco carnosas, color anaranjado pálido. **Sépalo dorsal** entreabierto, angostamente obovado-elíptico, obtuso, poco carnoso, glabro, 3-nervado, 4.5 x 1.5 mm. **Sépalos laterales** entreabiertos, ovados, oblicuos, obtusos, glabros, sin quilla dorsal, poco carnosos, 3-nervados, 4.5 x 2 mm. **Pétalos** entreabiertos, linear-oblanceolados, agudos, membranáceos, dorsalmente sulcados, uninervados, con un nervio secundario, 4 x 1 mm. **Labelo** unido a la columna, trilobado, carnoso, bicalloso, sin quillas, sulcado dorsalmente, 3 x 4 mm; lóbulos laterales subcuadrados, oblicuos, en posición natural abrazando el ápice de la columna y generalmente cubriéndola en la mayor parte, al extenderse se rompen en la unión con el lóbulo medio; lóbulo medio triangular. **Columna** recta, deflexa en la base con respecto del ovario, gruesa, 2.5 mm de largo, ápice terminado en un diente en ángulo recto a cada lado. **Clinandrio** obsoleto, entero. **Antera** ovoide, aguda, carnosa, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas suaves y granulosas, algo más largas que los polinios. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/3 del largo de la cavidad estigmática. **Nectario** muy poco profundo, sin llegar hasta el perianto, apenas penetrando 2/3 partes de la columna, ornamentado con pelos alargados frente a la cavidad estigmática, reclinados hacia el interior. **Cápsula** no vista.

Litophytic, caespitose herb. **Roots** fleshy, from the base of the main stem. **Stems** terete, reed-like, branching near the apex when mature. **Leaves** linear-lanceolate, acute, margin entire, revolute. **Inflorescence** terminal, from the mature stem, flowers only once, paniculate, erect, without spathe. Floral bracts much shorter than ovary, spreading, ovate-triangular, acute. **Flowers** ca. 20, non-resupinate, successive, somewhat fleshy, pale orange. **Ovary** thin, unornamented. **Sepals** partly open, somewhat fleshy, obtuse, 3-veined, the dorsal obovate-elliptic, the laterals obliquely ovate. **Petals** partly open, linear-oblanceolate, acute, membranaceous, 1-veined with a secondary vein. **Lip** united to the column, 3-lobed, bicallose, without keels, fleshy; lateral lobes subquadrate, oblique, in natural position embracing the column; midlobe triangular. **Column** short, straight, thick, deflexed at the base, with a tooth at each side of the apex. **Anther** ovate, acute, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles soft and granulose, somewhat longer than the pollinia. **Rostellum** subapical, slit. **Lateral stigma** lobes small, about 1/3 of the length of the stigmatic cavity. **Nectary** shallow, without reaching the perianth, with long hairs sloping inwards in front of the stigmatic cavity.

OTHER SPECIMENS: ECUADOR: Esmeraldas: Dodson et al. 18724, RPSC! van der Werff et al. 1999, MO!

DISTRIBUTION AND ECOLOGY: Known only from the area of Lita, Province of Esmeraldas, Ecuador. Lithophytic on large boulders in small rivers, 500-800 m altitude, in company of Phragmipedium hirtzii Dodson. Flowering thoughout the year.

RECOGNITION: Epidendrum grayi is recognized by the slender, branching stems, very narrow leaves with the margins revolute, paniculate inflorescence, and successive, small flowers with 3-lobed lip and nectary profusely pilose in the surface opposite to the stigmatic cavity. The flowers are somewhat similar to those of E. pilcuense Hágsater & Dodson, which is distinguished by the much larger plants, unbranched stems, oblique leaves at least twice larger in linear measurements and sparsely dentate along the margins, and the papillose-pilose lateral lobes of the lip.

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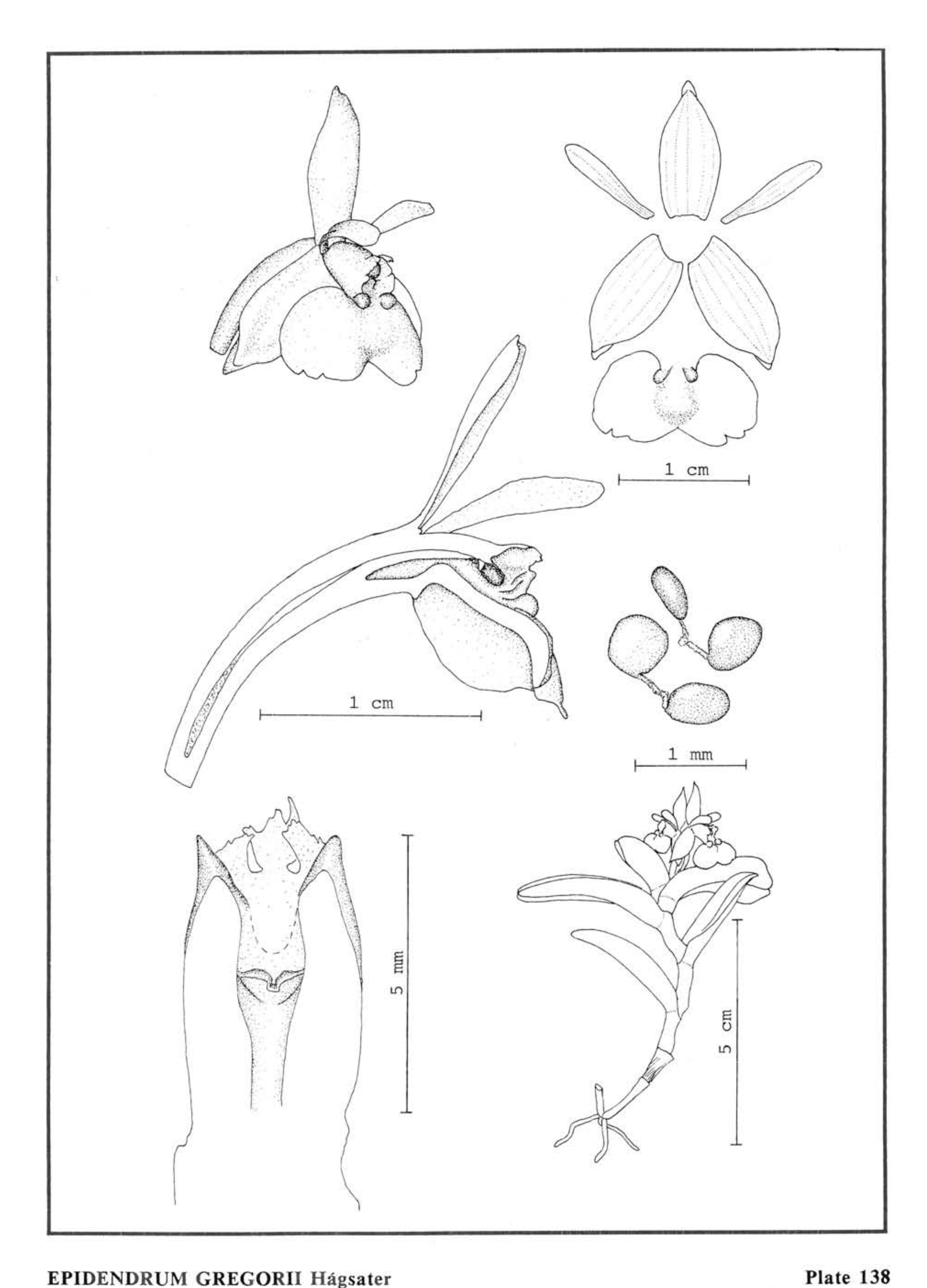
CONSERVATION STATUS: Not threatened. Presently safe because it is found in the Aw'a Natural Reserve. However, if the status of the reserve is modified, the species would be potentially endangered.

ETYMOLOGY: Dedicated to Dr. Bruce Gray, Australian expert in Lauraceae and one of the most selective orchid collectors who have visited Ecuador, who collected this species for the Río Palenque Science Center.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM GREGORII Hágsater

Text on the reverse side

Plate 138

EPIDENDRUM GREGORII Hágsater, *sp. nov.*

Holotype: PANAMA: Valle de Antón, comprada a Gregorio [Ruíz] en La Mesa, prensada 30 agosto 1981, *E. Hágsater 6410*, AMO! (illustration voucher.) Isotype: MEXU!

Epidendro hammelii Hágsater & Sánchez vegetative simile, sed differt labello bilobo, columna prominentiis apicalibus lateralibus triangularibus manifestis, rotundatis, clinandrio tripartito.

Hierba epífita, cespitosa, 7.5-8 cm de alto. **Raíces** basales, carnosas, 0.5-1 mm de grosor. **Tallo** sencillo, tipo caña, terete, ligeramente flexuoso, 5-5.5 cm de largo. **Hojas** 5-6, equidistantes a lo largo del tallo; vaina tubular, lisa, 0.7-1.3 cm de largo; lámina subcoriácea, elíptica, lisa, lustrosa, verde, margen entero, ápice bilobado, 1.3-2.5 x 0.5-0.8 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, sésil. **Bráctea floral** mucho más corta que el ovario. **Flores** 2-3, resupinadas, sucesivas, 2 abiertas a la vez, verde pálido. **Ovario** inflado longitudinalmente, terete, no ornamentado, 12.5-16 mm de largo. **Sépalos** subcoriáceos, glabros, extendidos, libres, obovados, agudos, con una quilla dorsal prominente en el ápice, márgenes enteros, extendidos, 5-nervados, con nervaduras secundarias laterales, el dorsal 8.5-9.5 x 3.5 mm, los laterales 10.5 x 4.3-4.8 mm. **Pétalos** membranáceos, oblanceolados, redondeados, sin quilla dorsal, márgenes enteros, extendidos, 3-nervados, 8.3-9 x 1.3-1.6 mm **Labelo** unido a la columna, bilobado, subcoriáceo, bicalloso, los callos subglobosos, con un seno amplio en el ápice, 5.5-6 x 1.1-1.2 mm; lóbulos semiorbiculares, con dos pequeñas muescas oblicuas en el margen distal. **Columna** recta, con prominencias laterales apicales triangulares, redondeadas, 5.5-5.8 mm de largo. **Clinandrio** algo prominente, tripartido, margen irregularmente eroso. **Antera** 4-locular. **Polinios** 4, semiovoides, lateralmente comprimidos; caudículas suaves y granulosas, más cortas que los polinios; viscidio viscoso, translúcido. **Rostelo** no visto. **Nectario** corto, penetrando 1/3 del ovario, inflado, no ornamentado. **Cápsula** no vista.

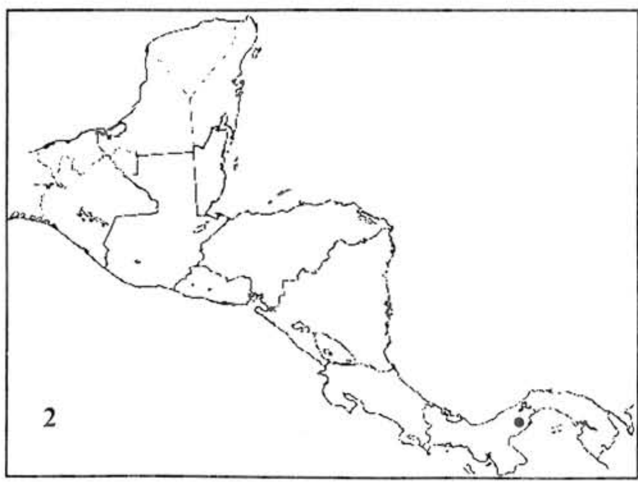
Epiphytic, caespitose herb. **Stems** reed-like, terete, slightly flexuous. **Leaves** 5-6, elliptic, apex bilobed, margin entire. **Inflorescence** terminal, flowers only once, sessile. **Flowers** 2-3, resupinate, sucessive, pale green. **Ovary** longitudinally inflated, terete. **Sepals** subcoriaceous, glabrous, free, spreading, obovate, acute with a dorsal, prominent keel, margin entire, spreading, 5-veined. **Petals** membranaceous, oblanceolate, rounded, margin entire, spreading, 3-veined. **Lip** united to the column, bilobed, bicallose, the callii subglobose, apex broadly emarginate; lobes semiorbicular, minutely and obliquely notched on the distal margin. **Column** straight, with a lateral triangular, rounded process at each side of the apex. **Clinandrium** somewhat prominent, 3-partite, margin irregularly erose. **Anther** 4-celled. **Pollinia** 4, semiovoid, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent. **Nectary** short, penetrating 1/3 of the ovary, inflated.

DISTRIBUTION AND ECOLOGY: Known only from type. Epiphyte. Flowering in August.

RECOGNITION: Epidendrum gregorii Hágsater is a member of the E. difforme Jacq. complex and can be recognized by the small flowers, acute sepals with prominent dorsal keel, bilobed lip, each lobe obliquely notched on the distal margin, and clinandrium somewhat prominent, tripartite. It is similar vegetatively to Epidendrum hammelii Hágsater & Sánchez but has very different flowers.

CONSERVATION STATUS: Undetermined.

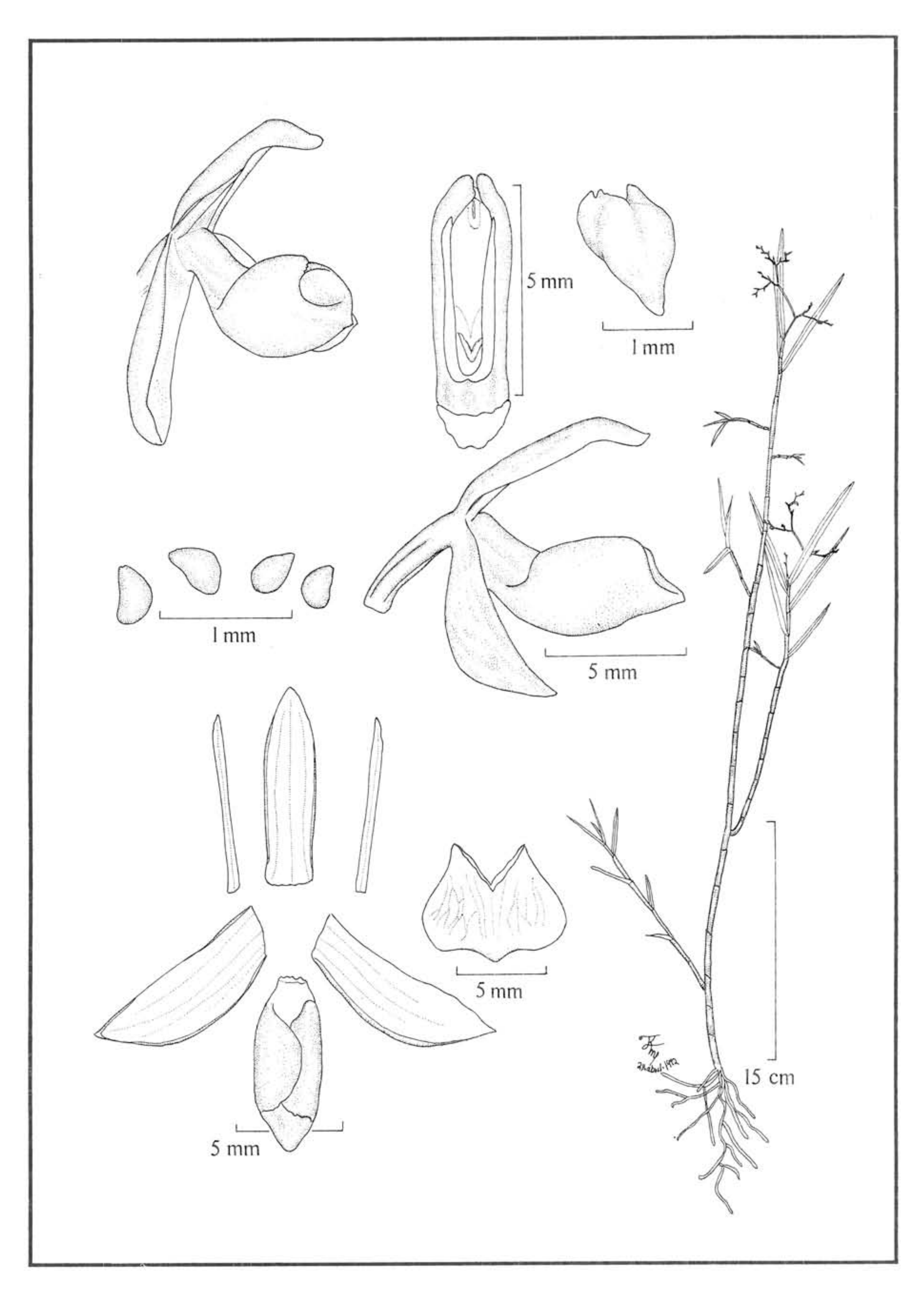
ETYMOLOGY: Named after Gregorio Ruíz of La Mesa, a native orchid collector in El Valle de Antón, who provided the original plant.



Author: E. Hágsater Ilustrator: E. Hágsater Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM GUACAMAYENSE Hágsater & Dodson **Plate 139**

Text on the reverse side

EPIDENDRUM GUACAMAYENSE Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Prov. Napo: Baeza-Tena, 6 km al E del Puerto Ave María, Cordillera de Guacamayo, 2070 m, 12 diciembre 1986, *E. Hágsater 8851 & C. H. Dodson*, QCNE! Isotypes: AMO! (illustration voucher.) RPSC (x2)!

Herba lithophytica, erecta, secus caulem principalem ramificans; folia anguste lanceolata, acuta, graminea; inflorescentia terminalis, paniculata; pedunculus filiformis, arcuatus, flexuosus; rami dispersi, flexuosi; flores successivi, uno simul vel uno per paniculae ramum evolvente; petala linearia, sepalum dorsale adherentia; labellum reniforme, carnosum, ecallosum, ecarinatum, margine apicali trilobato, lobis lateralibus rotundatis, apicali obtuso; lateribus involutis, columnae apicem amplectentibus; columna basi deflexa.

Hierba litófita, cespitosa, erecta, ramificada, ca. 65 cm de alto. **Raíces delgadas**, solo de la base de los tallos principales, ca. 1 mm de grosor. **Tallos** erectos, rectos, teretes, ramificados cuando maduros, el principal 50-60 x 0.2-0.3 cm, ramas 3-17 x 0.15-0.2 cm. **Hojas** distribuidas hacia el ápice de los tallos; vaina tubular, 1.5-2.8 cm de largo; lámina angostamente lanceolada, aguda, graminoide, 1-9.6 x 0.25-0.6 cm. **Inflorescencia** terminal, del tallo principal y de las ramas, paniculada, arqueada, se desarrolla durante largo tiempo; pedúnculo filiforme, sin espata ni brácteas basales, 3.5-13 cm de largo; raquis en zig-zag en cada rama, las ramas espaciadas 18-25 mm, sin brácteas intermedias. **Brácteas florales** triangulares, acuminadas, amplexicaules en la base, divergentes del raquis, 3-4 mm de largo. **Flores** sucesivas, desarrollándose una a la vez, o una por cada rama de la panícula, color verde-amarillento con sépalos cobrizos. **Ovario** no inflado, 4 mm de largo. **Sépalo dorsal** cuculado, entreabierto, oblongo-elíptico, obtuso, 3-nervado, 7 x 2 mm. **Sépalos laterales** entreabiertos, oblicuamente elípticos, falcados, agudos, 3-nervados, 7.5 x 2.6 mm. **Pétalos** lineares, agudos, 1-nervados, adherentes al sépalo dorsal, 6.5 x 0.5 mm. **Labelo** unido a la columna y abrazándola completamente en el ápice, los lados superpuestos, carnoso, ecalloso, sin carinas, reniforme al extender, 6 x 8 mm; el ápice agudo en posición natural, al extenderse el margen apical trilobulado, lóbulos laterales redondeados, lóbulo apical obtuso. **Columna** deflexa en la base, 5 mm de largo. **Antera** ovoide, aguda. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas muy cortas; viscidio semilíquido. **Rostelo** subapical, hendido. **Nectario** aparentemente muy corto, sin penetrar más allá del perianto. **Cápsula** no vista.

Lithophytic, caespitose, branching **herb**. **Roots** thin, from the base of the main stems only. **Stems** erect, straight, terete, branching when mature, branches smaller. **Leaves** distributed towards the apex of the stems; sheaths tubular, blade narrowly lanceolate, acute, grass-like. **Inflorescence** terminal, from the main stem and the branches, arcuate, paniculate, developing over a long period of time; peduncle filiform, without basal spathe or bracts; rachis zigzag, branches spaced apart. **Floral bracts** triangular, acuminate, amplexicaul at the base, divergent from the rachis. **Flowers** successive, developing one at a time at each branch of the panicle, yellowish-green, the sepals bronze-colored. **Ovary** not inflated. **Dorsal sepal** cucullate, partly open, oblong-elliptic, obtuse, 3-veined. **Lateral sepals** partly open, obliquely elliptic, falcate, acute, 3-veined. **Petals** linear, acute, 1-veined, adherent to the dorsal sepal. **Lip** united to the column and completely embracing it at the apex, the margins overlapping, fleshy, ecallose, without keels, when flattened reniform; apex of the lip acute in natural position, when flattened the apical margin 3-lobed, lateral lobes rounded, apical lobe obtuse. **Column** deflexed at the base. **Anther** ovoid, acute. **Pollinia** 4, obovoid, laterally compressed, caudicles very short, viscidium semiliquid. **Rostellum** subapical, slit. **Nectary** apparently very short, not penetrating beyond the perianth.

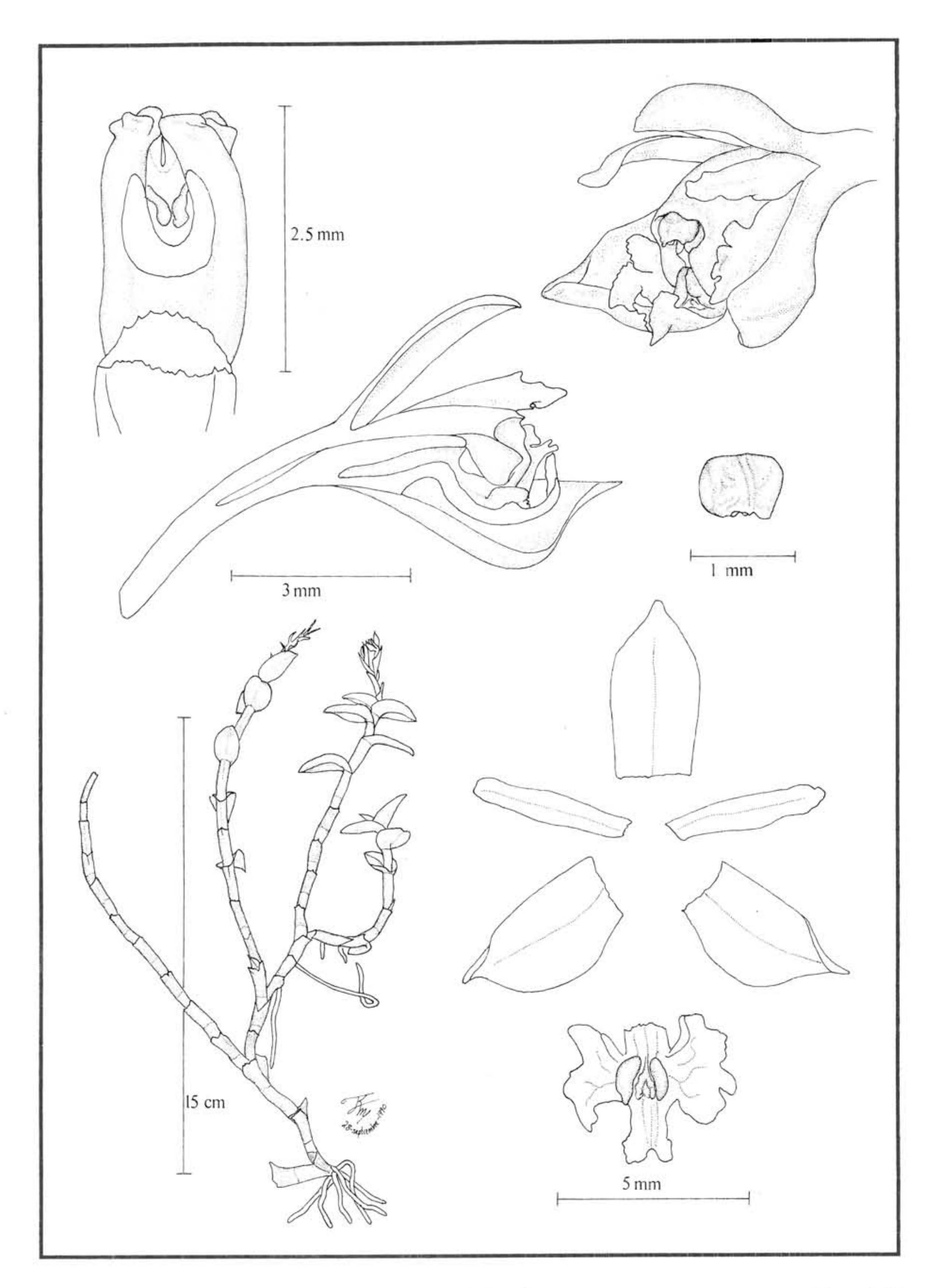
OTHER SPECIMENS: ECUADOR: Napo: Dodson & Chase 17211, RPSC! Hirtz 1867, RPSC! Molau & Eriksen 2136, QCA!

DISTRIBUTION AND ECOLOGY: Known only from the Cordillera de Guacamayo, between Baeza and Tena, growing on rocks on roadsides at 1850-2070 m. Flowering from December to June and probably throughout the year.

RECOGNITION: Epidendrum guacamayense is recognized by the erect, branching stems with grass-like, narrow leaves, the apical arcuate inflorescence with very thin peduncle, and the successive, fleshy flowers with the lip completely embracing the column and ending in an obtuse point. This species belongs to the E. elleanthoides Schltr. group.

CONSERVATION STATUS: Unknown.

ETYMOLOGY: Named after the mountain range on which it has been collected, the Cordillera de Guacamayo, on the eastern watershed of the Eastern Andes in central Ecuador.



EPIDENDRUM GUANACASENSE **Hágsater & Dodson** **Plate 140**

Text on the reverse side

EPIDENDRUM GUANACASENSE Hágsater *et* Dodson, *sp. nov.*

Holotype: COLOMBIA: Páramo de Guanacas, Central Andes of Popayán, 3000-3500 m, *F.C. Lehmann 6847*, AMES (22624)! Isotypes: AMES (74057)! K! L! NY! W!

Epidendro brevivenio Lindl. simile, sed foliis ovatis, inflorescentia spatha carenti, labello trilobato, lobis lateralibus flabellatis, margine irregulariter sinuato-lobato, lobo mediano rectangulari-spatulato, emarginato.

Hierba epífita, con rizomas rastreros, 10-20 cm de alto. Raíces filiformes, producidas en el rizoma, 1 mm de grosor. **Tallos** erectos, producidos del segundo o tercer entrenudo del tallo anterior, de manera que aparecen separados por rizomas rastreros de 1.5-3 cm de largo, flexuosos, la parte erecta 6-12 x 0.25-0.5 cm. **Hojas** 9-18, distribuidas homogéneamente a lo largo del tallo; vaina tubular, algo comprimida lateralmente, dilatada hacia el ápice, rugosa, 6-9 x 3-5 mm; lamina ovada, dorsalmente carinada cerca del ápice, subcoriácea, algo rugosa, 8-19 x 6-9 mm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, racemosa, erecta, ocasionalmente algo arqueada, compacta; pedúnculo abreviado, sin espata, con 2-5 brácteas conduplicadas, tubular-amplexicaules en la base, incurvadas, 10-15 mm de largo. **Brácteas florales** similares a las del pedúnculo pero más cortas, angostamente triangulares, acuminadas, incurvadas, progresivamente más cortas, ligeramente más cortas que el ovario, 3.5-9 mm de largo. **Ovario** delgado, 5-9 mm de largo. **Flores** subsimultáneas, numerosas, 20 o más, resupinadas, entreabiertas, de color pardo-crema, aparentemente sin fragancia. **Sépalo dorsal** obovado, agudo, 4.5 x 2.3 mm. **Sépalos laterales** obovados, agudos, dorsalmente carinados cerca del ápice, ligeramente oblicuos, 4.5 x 2.3 mm. **Pétalos** sublineares, redondeados, rectos, 1-nervados, 4 x 0.8 mm. **Labelo** unido a la columna, trilobado, prominentemente bicalloso, callos lateralmente comprimidos, con una protuberancia irregular entre ellos, 3.5 x 4.5 mm; lóbulos laterales flabelados, margen irregularmente sinuado-lobulado; lóbulo medio rectangular-espatulado, emarginado. **Columna** gruesa, recta, 2.5 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** reniforme, con una quilla roma al frente, 4-locular. **Polinios** no vistos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** prominentes, de la mitad del largo de la cavidad estigmática. **Nectario** poco profundo, sin penetrar el ovario, no ornamentado. **Cápsula** subglobosa, 12 x 8-9 mm, con pedicelo delgado de 3-4 mm de largo.

Epiphytic, repent **herb**. **Stems** produced from the 2nd-3rd internode of the previous stem, thus spaced along the repent rhizome, erect, flexuous. **Leaves** ovate, subcoriaceous, somewhat rugose. **Inflorescence** terminal, flowers only once, racemose, erect, compact, without spathes, with 2-5 conduplicate bracts on the peduncle. **Flowers** numerous, partly open, brownish-cream, apparently without fragrance, resupinate. **Sepals** obovate, acute, the laterals somewhat oblique. **Petals** sublinear, rounded, 1-veined. **Lip** united to the column, 3-lobed, prominently bicallose; lateral lobes flabellate, margin sinuate-lobulate; midlobe rectangular-spatulate, emarginate. **Column** short, thick. **Clinandrium** obsolete, entire. **Anther** reniform, with a low keel in front, 4-celled. **Rostellum** apical, slit. **Lateral stigma lobes** prominent. **Capsule** subglobose, with a short, slender pedicel.

OTHER SPECIMENS: ECUADOR: Sucumbíos: Hágsater et al. 10618, **AMO!** (illustration voucher.)

DISTRIBUTION AND ECOLOGY: This species seems to be restricted to the high páramos and cloud forests of the inter-Andean valley on the border between Ecuador and Colombia. The authors have found it growing on trees in a dense cloud forest, just below the páramo, but the species may also occur as terrestrial or lithophyte at higher altitude, where many orchids can be found on slopes amidst mosses.

RECOGNITION: Epidendrum guanacasense can be easily recognized at first glance by its somewhat creeping growth mode with the thick, erect stems covered by small, ovate, coriaceous leaves, and the erect, racemose, compact inflorescence without spathe, with 2-5 bracts surrounding the basal portion of the peduncle. Its closest relative is E. brevivenium Lindl., which has similar habit but larger plants with fewer, thinner leaves, and has two clearly distinct spathe-like bracts at the base of the inflorescence. Epidendrum guanacasense is comparatively a much more compact plant.



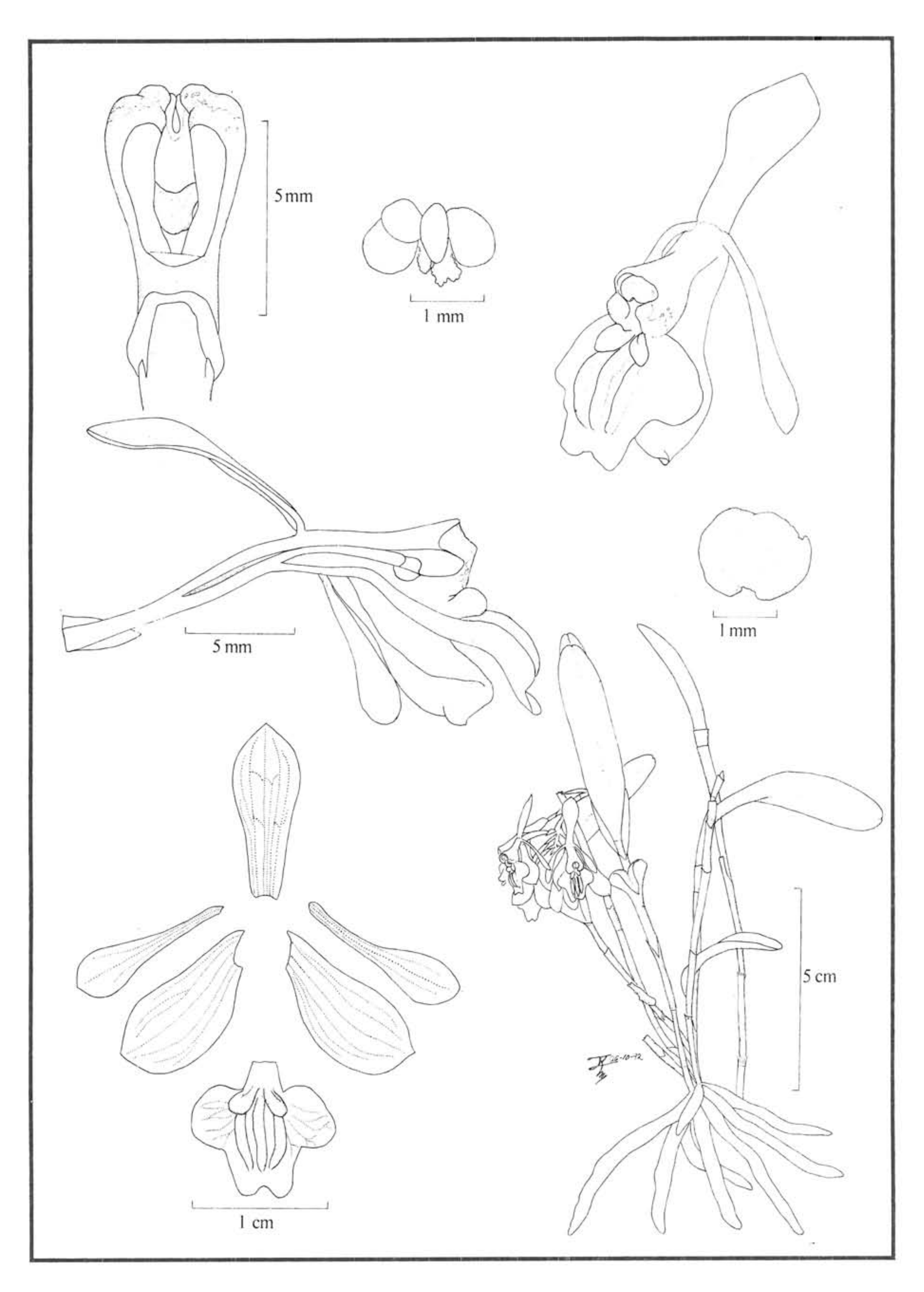
CONSERVATION STATUS: Unknown.

ETYMOLOGY: The specific name is derived from the Páramo of Guanacas, the locality where Consul Lehmann originally found it.

Authors: E. Hágsater & C. H. Dodson **Ilustrator: R. Jiménez** **Editors: E. Hágsater & G. A. Salazar**

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EPIDENDRUM GUERRERENSE Hágsater & García-Cruz

Plate 141

Text on the reverse side

EPIDENDRUM GUERRERENSE Hágsater *et* García-Cruz, *sp. nov.*

Holotype: MEXICO: Guerrero: Camino a Hueycatenango km 26, bosque de encinos, colecta noviembre 1975, prensado 24 enero 1983, *E. Hágsater 4072*, AMO! Isotypes: AMES! MEXU! Clonotypes: 9 enero 1982, US! 8 febrero 1985, ENCB!

Epidendro oaxacano Rolfe ex Ames simile, sed inflorescentia densa, floribus viridibus, labello trilobato, inter lobos sinubus obtusis, lobis lateralibus sine nervis prominentibus, apice lobi mediani bilobato, margine integro.

Hierba epífita, cespitosa, 19-120 cm de alto. **Raíces** basales, carnosas, gruesas, 3.5-5.8 mm de grosor. **Tallos** sencillos, tipo caña, teretes, ligeramente comprimidos lateralmente en el tercio apical, rectos, 15-106 cm de largo, 2.3-8.5 mm de grosor. **Hojas** 6-10, distribuidas en el tercio apical del tallo; vaina tubular, ligeramente estriada, papirácea, 9-50 mm de largo; lámina angostamente-elíptica, obtusa, redondeada, coriácea, lisa, ligeramente carinada, verde claro, 6.5-13.3 x 1.4-3.8 cm. **Inflorescencia** terminal en el tallo maduro, florece varios años produciendo nuevos racimos de los nudos del mismo pedúnculo, racemosa, densa (en ocasiones laxa), arqueada, 5-15.5 cm de largo; raquis terete, recto, liso; pedúnculo sin espata, con 3-5 brácteas que lo cubren casi completamente, imbricadas, oblongo-triangulares, tubulares, papiráceas, más grandes que las brácteas florales, 15-43 mm. **Bráctea floral** mucho más corta que el ovario, libre, triangular, aguda a atenuada, 2-7.5 x 1-2 mm. **Flores** 10-30, simultáneas, resupinadas, sin fragancia apreciable durante el día, carnosas, color verde limón, en ocasiones los callos y la base del labelo difuminados de rojo-morado, columna verde limón con el ápice rojo-morado. **Ovario** terete, ligeramente sulcado, 10-17 mm de largo, 1-2 mm de grosor. **Sépalo dorsal** reflexo desde la base, obovado a elíptico, obtuso, mucronado, margen extendido, entero, sin quilla dorsal, 5-nervado, 9.7-12.8 x 3.9-5.3 mm. **Sépalos laterales** descendentes, algo ocultos por el labelo en vista frontal, ligeramente unidos a la columna en su porción basal, oblicuamente elípticos, obtusos, mucronados, margen reflexo en la base, entero, sin quilla dorsal, 6-nervados, 10.7-13.7 x 4.5-6.6 mm. **Pétalos** deflexos, libres, espatulados, obtusos, redondeados, margen extendido, entero, 3-nervados, 10-12.4 x 2-4.4 mm. **Labelo** unido a la columna, trilobado, bicalloso, callos laminares, disco con tres carinas centrales prominentes, 8.5-11.4 x 8.0-12.6 mm; lóbulos laterales semiorbiculares, sin venas prominentes, margen entero, 2.8-4.6 x 4.4-6.5 mm; lóbulo medio prominente, subcuadrado, bilobado, separado de los laterales por senos amplios, obtusos, margen entero, 3.3-6.6 x 3.2-6.3 mm. **Columna** recta, obcónica, gruesa, 7.8-9 mm de largo, 3.5-4 mm de grosor. **Clinandrio** no prominente, margen entero. **Antera** reniforme, diminutamente rugosa, con una quilla roma al frente, 4-locular, 1.5 x 1.2 mm. **Polinios** 4, lateralmente comprimidos, subiguales, obovoides; caudículas granulosas, casi del mismo largo que los polinios; viscidio viscoso, transparente. **Rostelo** subapical, hendido, elíptico. **Lóbulos laterales del estigma** poco prominentes, de alrededor de 1/3 del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando ligeramente detrás del perianto, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose herb. Stem simple, reed-like, with 6-10 narrowly elliptic **leaves** near the apex. **Inflorescence** terminal, flowers several years, short, arcuate, with one to several racemes. **Flowers** 10-30, resupinate, odorless, green. **Dorsal sepal** obovate, obtuse, margin spreading. **Lateral sepals** obliquely elliptic, obtuse, margin reflexed. **Petals** spatulate, obtuse-rounded, margin spreading. **Lip** united to the column, 3-lobed, fleshy; disc with 3 longitudinal keels and two basal, laminar, divergent calli; lateral lobes semiorbicular, margins entire; midlobe subquadrate, bilobed, margins entire. **Column** straight, thick. **Clinandrium** entire. **Anther** reniform, minutely rugose, 4-celled. **Pollinia** 4, laterally compressed; caudicles granulose; viscidium viscous. **Rostellum** slit. **Nectary** barely penetrating beyond the perianth.

OTHER SPECIMENS: MEXICO: Guerrero: Hágsater 4069, AMES! AMO! ENCB! F! FCME! K! MEXU! NY! UAMIZ! 4389, AMO! MICH! SEL! Jiménez et al. 1174, AMO!

OTHER RECORDS: Guerrero: Jiménez et al. 1179 (flowers in liquid), AMO! (illustration voucher.)

DISTRIBUTION AND ECOLOGY: Endemic to Mexico, from the Sierra Madre del Sur, Guerrero. Epiphyte, usually on oaks in oak forest, from 1800 to 1900 m altitude. Flowering mainly from November to January.

RECOGNITION: Epidendrum guerrerense is closely related to E. oaxacanum, an Oaxacan endemic with lax inflorescence, greenish-yellow flowers, lip 3-lobed but with the lobes separated by narrow, acute sinuses, lateral lobes with several radiating, thickened veins, and midlobe shallowly emarginate, with margin erose. E. guerrerense has short, dense racemes, green flowers, broad obtuse sinuses separating the lobes of the 3-lobed lip, the midlobe is definitely bilobed, with entire margins, and the lateral lobes lack the thickened veins. Epidendrum guerrerense has been found growing sympatrically with E. hueycantenangense Hágsater & García-Cruz, which can be easily distinguished by the usually purplish flowers, and the obscurely 3-lobed lip with dentate margins.



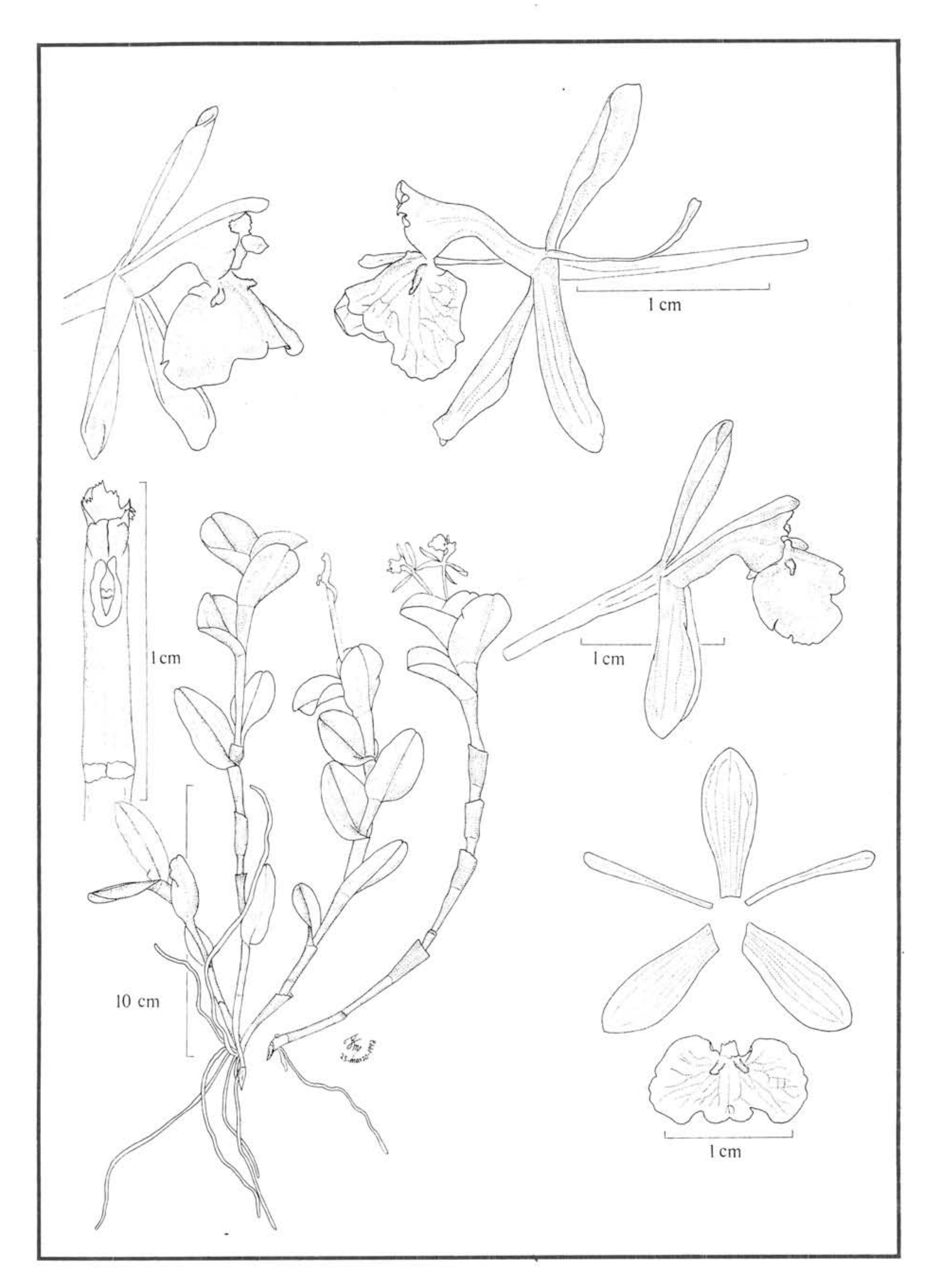
CONSERVATION STATUS: Undetermined.

ETYMOLOGY: The specific epithet guerrerense refers to the State of Guerrero, where this species was found.

Authors: E. Hágsater & J. García-Cruz Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM HAMERI Hágsater & L. Sánchez

Plate 142

Text on the reverse side

EPIDENDRUM HAMERI Hágsater *et* L. Sánchez, *sp. nov.*

Holotype: NICARAGUA: Dept. Granada, W slope of Volcán Mombacho, road and trail above Finca Santa Ana, reservoir somewhat above Plan de las Flores, ca. 11°49'-50'N, 85°58'W, elev. ca. 950-1150 m, *1 October 1977, W. D. Stevens & B. A. Krukoff 4358*, SEL! (illustration voucher.)

Epidendro firmo Rchb. f. simile, sed differt foliis superioribus imbricatis, ellipticis vel ovatis, floribus minoribus, labello duobus callis angustis rotundatis, et lobo mediano emarginato.

Hierba epífita, cespitosa, 18-23 cm de alto incluyendo la inflorescencia. **Raíces** basales, carnosas, 0.5-0.7 mm de grosor. **Tallo** sencillo, tipo caña, algo comprimido lateralmente, recto, 13-19 cm de largo. **Hojas** 4-9, equidistantes a lo largo del tallo, las superiores imbricadas; vaina lateralmente comprimida, lisa, no ornamentada, 1-1.5 cm de largo; lámina elíptica en las hojas inferiores a ovada en las hojas superiores, ápice asimétricamente bilobado, verde, lisa, no ornamentada, 1.5-4.5 x 0.8-1.8 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, sésil. **Bráctea floral** más corta que el ovario. **Flores** 1-2, resupinadas, simultáneas, color amarillo-verdoso muy pálido, translúcidas. **Ovario** terete, no ornamentado, 40-45 mm de largo. **Sépalos** obovados, redondeados, glabros, libres, subcoriáceos, márgenes enteros, revolutos, 5-nervados, 9 x 4 mm. **Pétalos** extendidos, linear-espatulados, márgenes enteros, extendidos, 1-nervados, 8.5 x 1 mm. **Labelo** unido a la columna, trilobado, bicalloso, los callos angostos, redondeados, 6 x 12 mm; lóbulos laterales dolabriformes, márgenes crenados; lóbulo medio dos veces más ancho que largo, emarginado, formando dos lóbulos redondeados. **Columna** arqueada en el tercio apical, delgada, 7.5 mm de largo. **Clinandrio** prominente, irregularmente dentado. **Antera** 4-locular. **Polinios** 4, subiguales, lateralmente comprimidos; caudículas suaves y granulosas; viscidio viscoso, translúcido. **Rostelo** apical, hendido. **Nectario** profundo, penetrando la mitad del ovario. **Cápsula** no vista.

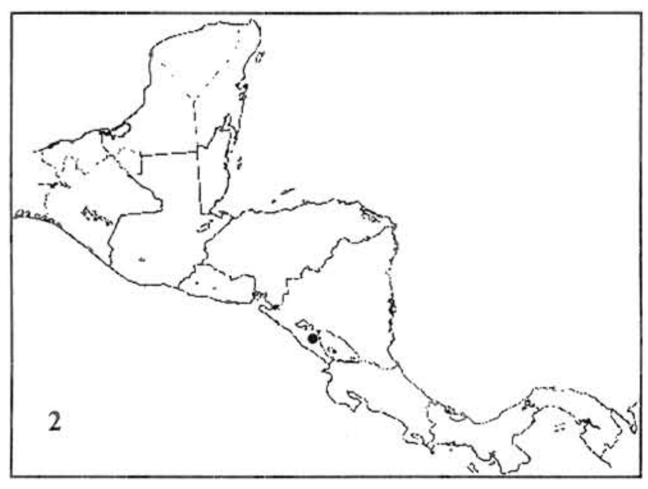
Epiphytic, caespitose herb. **Stems** simple, reed-like, somewhat compressed laterally, straight. **Leaves** 4-9, the lower ones elliptic and spaced apart, the upper ones ovate and imbricating, apices obliquely bilobed. **Inflorescence** terminal, sessile, flowers only once. **Flowers** 1-2, resupinate, simultaneous, very pale yellow-green, translucent. **Ovary** terete. **Sepals** obovate, rounded, glabrous, free, subcoriaceous, margin entire, revolute, 5-nerved. **Petals** spreading, linear-spatulate, rounded, margin entire, spreading, 1-nerved. **Lip** united to the column, 3-lobed, bicallose, the calli narrow, rounded; lateral lobes dolabriform, crenate; midlobe twice as wide as long, emarginate, forming two rounded lobes. **Column** arcuate near the apex. **Clinandrium** prominent, irregulary dentate. **Anther** 4-celled. **Pollinia** 4, laterally compressed; caudicles soft and granular; viscidium viscous, translucent. **Rostellum** slit. **Nectary** deep, penetrating half the ovary.

DISTRIBUTION AND ECOLOGY: Nicaragua, known only from the type. Epiphyte, in disturbed cloud forest below elfin forest at ca. 950-1150 m altitude. Flowering in October.

RECOGNITION: Epidendrum hameri is a member of the E. difforme Jacq. complex and is similar to E. firmum Rchb. f., but can be recognized by the imbricating upper leaves, 1-2 small flowers, and 3-lobed lip with dolabriform, crenate lateral lobes and short, emarginate midlobe forming two rounded lobules. Epidendrum lagenocolumna Hágsater, another similar species, has non imbricating upper leaves, 4-6 large flowers, semiorbicular lateral lobes, subquadrangular midlobe, and column swollen at the base because of the nectary unusually broad but constricted and decurved above the middle.

CONSERVATION STATUS: Undetermined.

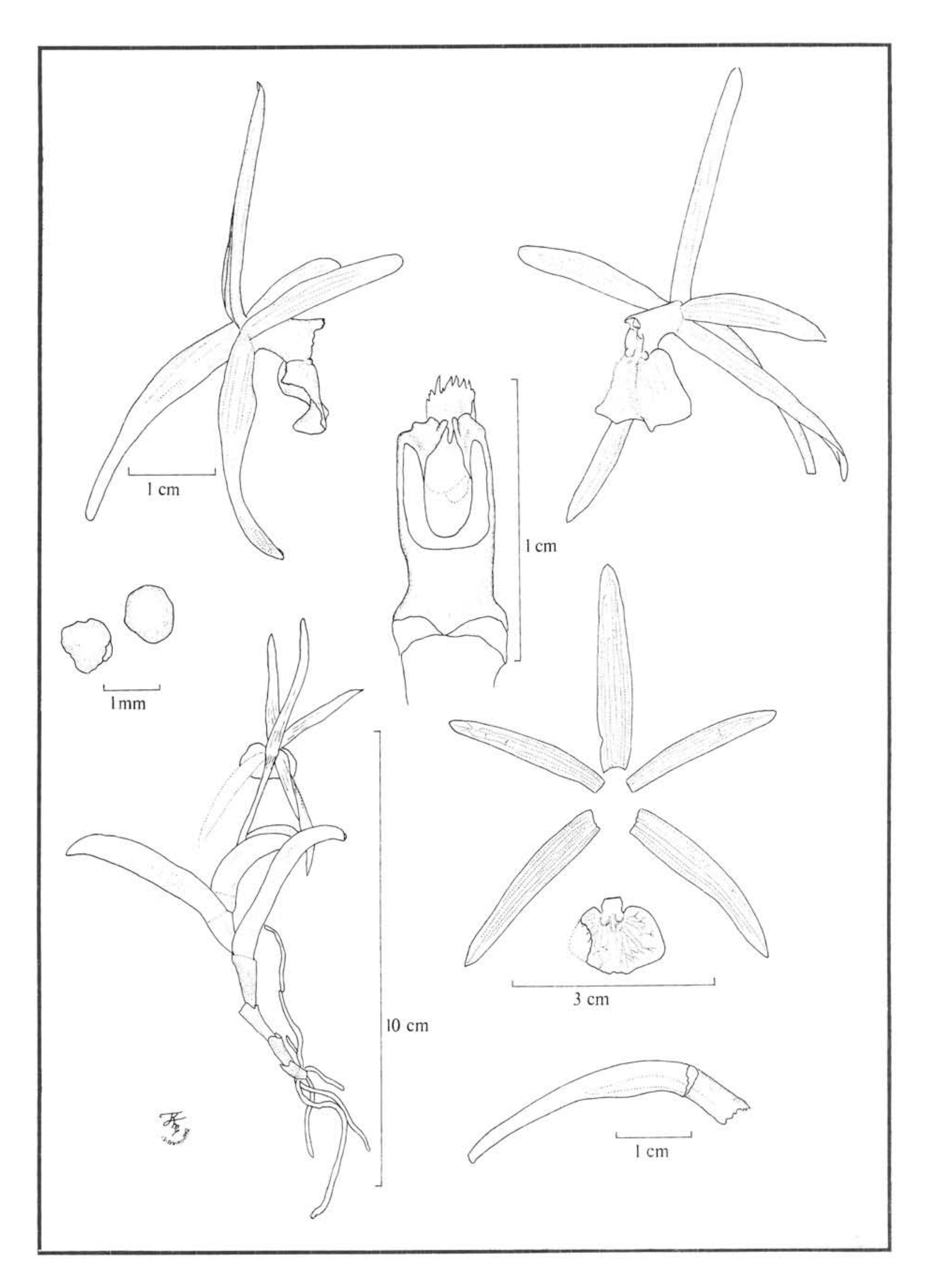
ETYMOLOGY: This species honors Fritz Hamer, orchid specialist from El Salvador who has published extensively on the orchids of El Salvador and Nicaragua. Mr. Hamer worked with the type specimen and prepared an illustration of it.



Author: E. Hágsater & L. Sánchez Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM HAMMELII Hágsater & L. Sánchez

Text on the reverse side

Plate 143

EPIDENDRUM HAMMELII Hágsater *et* L. Sánchez, *sp. nov.*

Holotype: PANAMA: Province Coclé: Near sawmill 16.7 km north of turnoff to Coclesito from Llano Grande, alt. 700 ft, 6 March 1978, *B. Hammel 1809*, MO! (illustration voucher.)

Vegetative Epidendro gregorii Hágsater simile, sed floribus multo majoribus, sepalis lanceolatis, lateralibus obliquis, petalis lineari-ellipticis, labello integro, apice retuso, et clinandrio integro margine dentato-fimbriato differt.

Hierba epífita, cespitosa, ca. 10 cm de alto incluyendo la inflorescencia. **Raíces** basales, carnosas, 0.5-1 mm de grosor. **Tallo** sencillo, tipo caña, terete, flexuoso, 4-4.5 cm de largo. **Hojas** 4, equidistantes a lo largo del tallo; vaina tubular, lisa, 0.5-1.1 cm de largo; lámina coriácea, angostamente elíptica, ápice desigualmente bilobado, lisa, sin quilla dorsal, verde, 2.4-3.7 x 1.1 cm. **Inflorescencia** terminal en el tallo maduro, florece aparentemente una sola vez, sésil. **Bráctea floral** mucho más corta que el ovario. **Flores** 2, simultáneas, resupinadas, aparentemente amarillas. **Ovario** ligeramente engrosado hacia el perianto, liso, ca. 30 mm de largo. **Sépalos** subcoriáceos, extendidos, glabros, libres. **Sépalo dorsal** lanceolado, agudo, márgenes enteros, revolutos, 5-nervado, con dos nervios subsidiarios en la base (pareciendo 7-nervado), 35 x 1.8-2 mm. **Sépalos laterales** oblicuamente lanceolados, agudos, márgenes enteros, revolutos, 5-nervados, con numerosas nervaduras secundarias, 29.5 x 1.8-2 mm. **Pétalos** linear-elípticos, obtusos, márgenes extendidos, enteros, 3-nervados, con dos nervios secundarios externos (pareciendo 5-nervados), 24.5 x 2 mm. **Labelo** unido a la columna, entero, reniforme, bicalloso, con 3 carinas muy gruesas en la base muy cercanas a los callos, margen entero, ápice retuso, 10 x 14 mm. **Columna** recta, 9 mm de largo. **Clinandrio** prominente, recto, entero, margen dentado-fimbriado. **Antera** 4-locular. **Polinios** 4. **Rostelo** apical, hendido. **Cápsula** no vista.

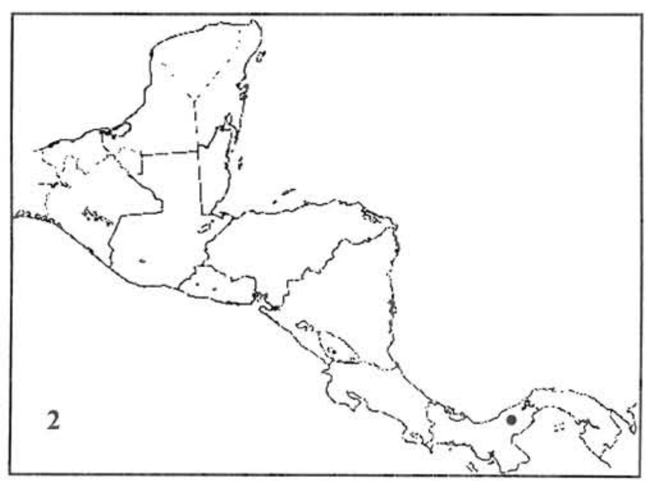
Epiphytic, caespitose, **herb**. **Stems** reed-like, terete, flexuous. **Leaves** 4, coriaceous, narrowly elliptic, apex unequally bilobed. **Inflorescence** terminal, flowers apparently only once, sessile. **Flowers** 2, resupinate, simultaneous, apparently yellow. **Sepals** subcoriaceous, spreading, glabrous. **Dorsal sepal** lanceolate, acute, margin entire, revolute, 5-veined with two secondary veins. **Lateral sepals** obliquely lanceolate, obtuse, margin entire, revolute, 5-veined with numerous secondary veins. **Petals** linear-elliptic, acute, margin entire, spreading, 3-veined with two secondary veins. **Lip** united to the column, entire, reniform, bicallose, 3-carinate, margin entire, apex retuse. **Column** straight. **Clinandrium** prominent, entire, margin dentate-fimbriate. **Anther** 4-celled. **Pollinia** 4. **Rostellum** apical, slit.

DISTRIBUTION AND ECOLOGY: Know only from the type. Epiphyte at ca. 230 m altitude. Flowering in March.

RECOGNITION: Epidendrum hammelii is a member of the E. difforme Jacq. complex. It can be recognized by the terete stems, two flowers, lanceolate sepals, linear-elliptic petals, entire, reniform lip with retuse apex, straight column and prominent, entire clinandrium with the margin dentate-fimbriate. Vegetatively it is similar to E. gregorii Hágsater, but floral features separate them at a glance.

CONSERVATION STATUS: Undetermined.

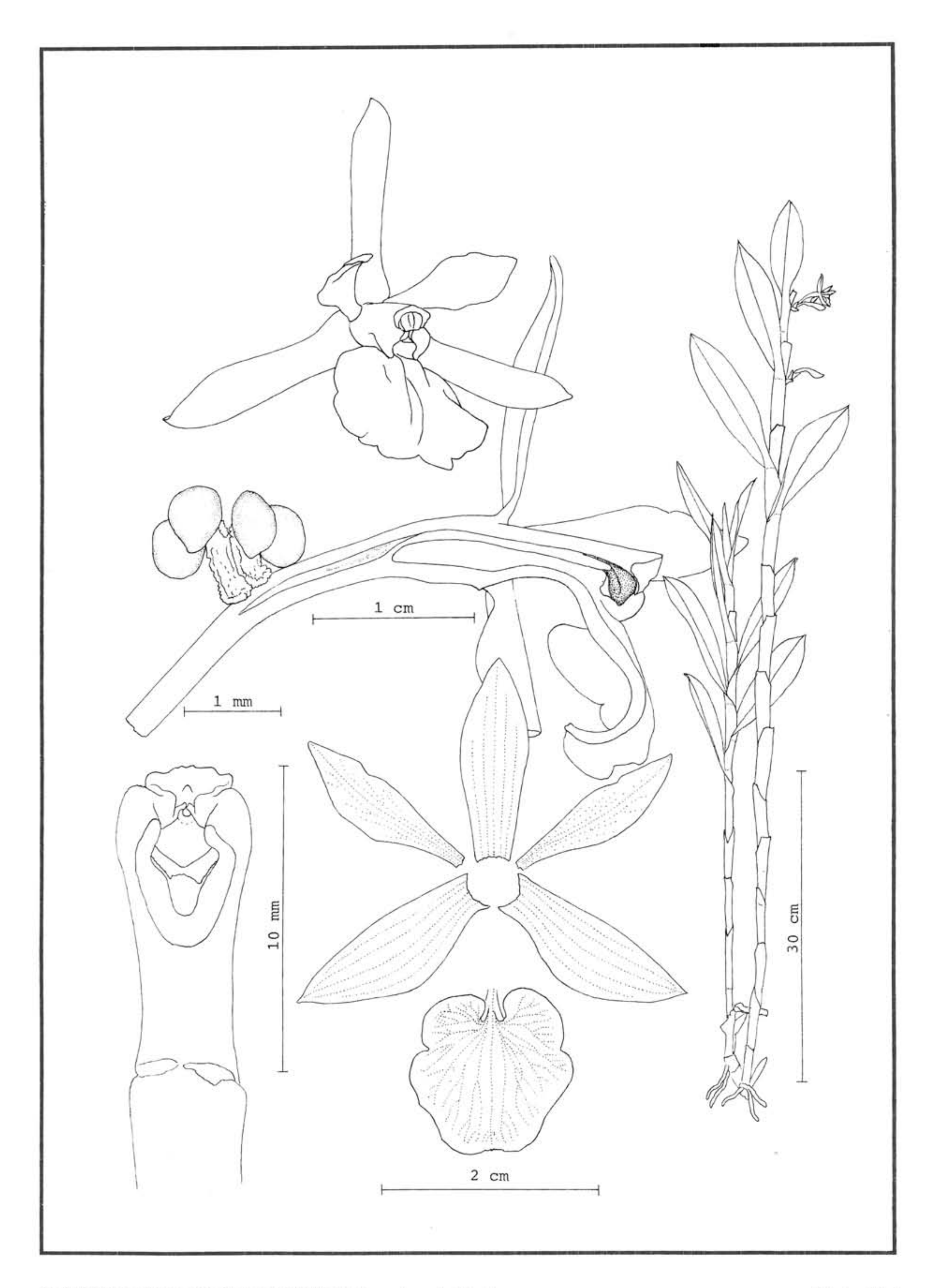
ETYMOLOGY: This species is dedicated to Barry Hammel, who collected the type specimen.



Authors: E. Hágsater & L. Sánchez Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM HEXAGONUM Hágsater & Dodson

Text on the reverse side

Plate 144

EPIDENDRUM HEXAGONUM Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Pichincha: Old road to Quito km 27, 1500-2100 m, on steep bank, collected 12 April 1984, flowered in cultivation 26 January 1985, *W. & B. Thurston 4118 sub Hágsater 7709*, QCNE! (illustration voucher.) Isotype: AMO!

Epidendro phyllochari Rchb. f. simile, sed differt bracteis floralibus multo minoribus et floribus viridibus.

Hierba litófita, cespitosa, ca. 85 cm de alto. **Raíces** basales, carnosas. **Tallos** erectos, producidos de la base del tallo anterior, fuertemente comprimidos lateralmente, ancipitosos, 60-80 x 2 cm de alto. **Hojas** distribuidas a lo largo de los dos tercios apicales del tallo; vaina tubular, ancipitosa, estriada en seco, 3.5-6 x 1-2 cm; lámina elíptico-oblanceolada, aguda, 13-18 x 3.1-4.5 cm. **Inflorescencia** terminal y pedunculada o lateral y prácticamente sésil, en este caso apareciendo en la base de la vaina del lado opuesto a la lámina de la hoja inmediata inferior, originalmente racemosa, produciendo varios racimos sucesivos, 2-10 cm de largo; pedúnculo fuertemente comprimido; raquis totalmente cubierto por las brácteas florales. **Brácteas florales** ovadas, conduplicadas, dísticas, muy escasamente o no imbricadas, redondeadas a agudas, de 9-12 mm de largo. **Flores** 4-5, sucesivas, se desarrollan una a una, resupinadas, verdes, inodoras. **Ovario** dilatado en el 1/4 apical, 21-25 mm de largo. **Sépalos** angostamente elípticos, agudos, los laterales algo oblicuos, márgenes recurvados, 5-nervados, 18-19 x 6-7 mm. **Pétalos** angostamente elíptico-oblanceolados, agudos, más o menos planos, 5-nervados, los nervios laterales ramificados, 17-18 x 4-5 mm. **Labelo** unido a la columna, algo convexo, recurvado en el 1/3 apical, entero, hexagonal, la base cordada, con un pequeño seno a cada lado cerca de la base delimitando aurículas redondeadas mucho más pequeñas que la lámina principal que es trapezoide, márgenes enteros, ápice truncado, mucronado, el disco engrosado al centro con dos callos basales bajos, poco prominentes, 11-15 x 11-15 mm. **Columna** recta, delgada, 10 mm de largo. **Clinandrio** prominente, sobresaliendo ligeramente en el ápice de la columna, margen eroso. **Antera** ovoide, con una quilla roma al frente, 4-locular. **Polinios** 4, subglobosos, subiguales; caudículas suaves y granulosas; viscidio semilíquido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** prominentes, de la mitad del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando 1/3 del ovario, no ornamentado. **Cápsula** no vista.

Lithophytic, caespitose **herb**. **Stems** erect, simple, ancipitous. **Leaves** elliptic-oblanceolate, acute. **Inflorescence** terminal and pedunculate or lateral and sessile, in the latter case arising from the node at the base of the leaf-sheath, appears opposite to the blade of the lower leaf, originally racemose, producing several successive racemes; peduncle compressed; rachis completely covered by floral bracts. **Floral bracts** distichous, not or only scarcely imbricating, ovate, conduplicate, rounded to acute. **Ovary** swollen near the apex. **Flowers** 4-5, successive, developing one by one, resupinate, green, odorless. **Sepals** narrowly elliptic, acute, 5-veined. **Petals** narrowly elliptic-oblanceolate, acute, 5-veined, the lateral veins branching. **Lip** united to the column, entire, somewhat convex, with two small basal calli, hexagonal in outline, base cordate, with a small sinus at each side near the base limiting rounded auricles much smaller than the main blade which is trapezoid, truncate, mucronate. **Column** straight. **Clinandrium** slightly prominent at the apex of the column, margin erose. **Pollinia** 4, subglobose, subequal; caudicles soft and granulose; viscidium semiliquid. **Rostellum** subapical, slit. **Nectary** penetrating 1/3 of the ovary.

OTHER SPECIMENS: ECUADOR: Carchi: Hágsater et al. 11312, AMO!

DISTRIBUTION AND ECOLOGY: Thus far known only from the western slopes of the Western Andes in Ecuador, but expected to be also in Colombia. Lithophytic, on rocky, steep banks in rain forest at 1500-2100 m altitude. Flowering apparently throughout the year.

RECOGNITION: Epidendrum hexagonum is easily recognized by the light green plant, erect, caespitose habit, the stems laterally compressed, ancipitous, and the short, terminal or lateral inflorescences which produce green flowers in succession, one at a time, the segments about 17-19 mm long, and the lip hexagonal in outline, the base strongly cordate, the apex truncate. It is similar to E. phyllocharis Rchb. f., from Panama, which is easily distinguished by the deep green-purplish plants, white flowers with pinkish-bronze suffusion on sepals and petals and the much larger, conspicuously imbricating floral bracts.

CONSERVATION STATUS: Undetermined. This species has only been collected twice.

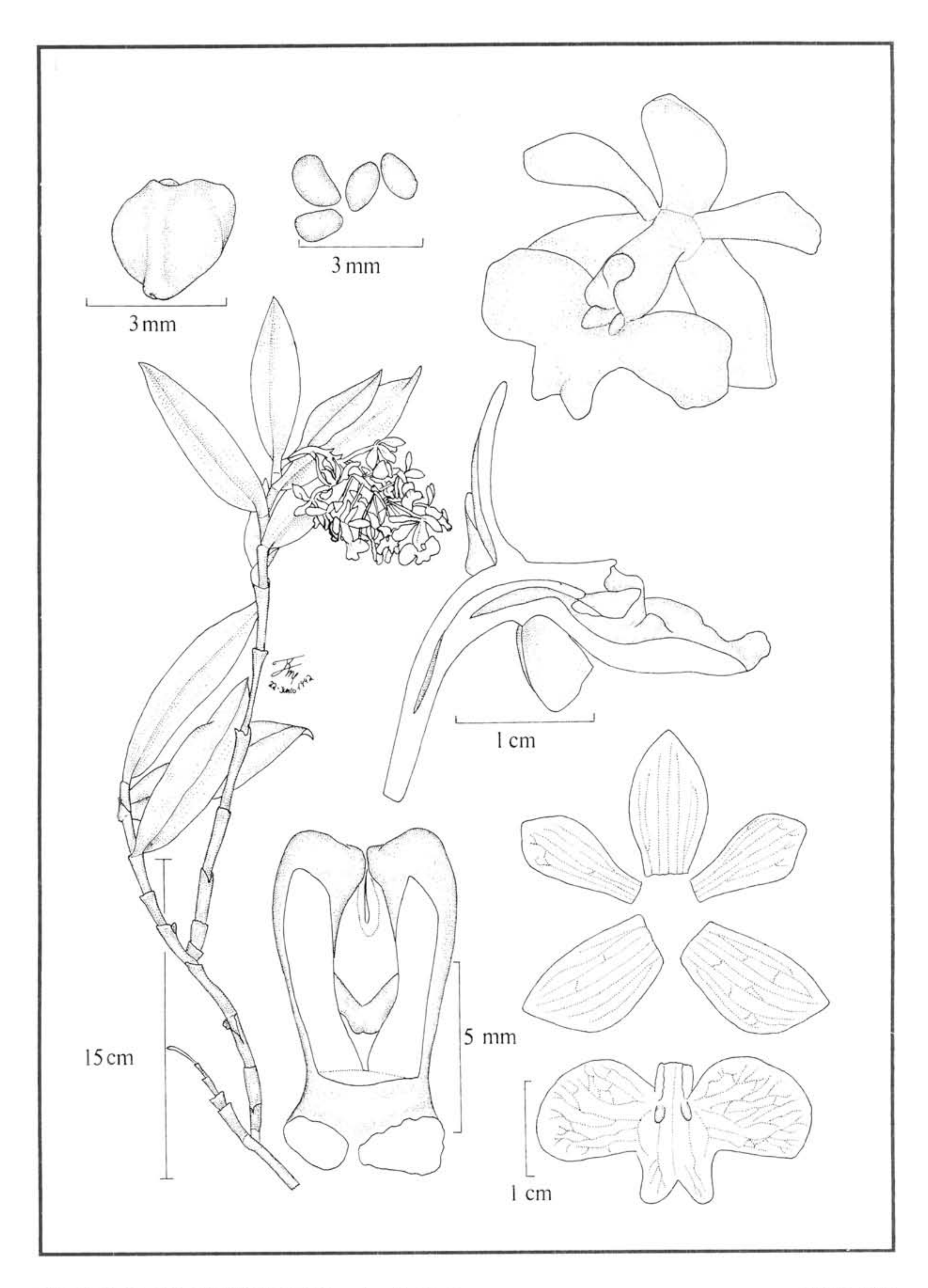
ETYMOLOGY: The epithet hexagonum refers to the six-sided outline of the lip.

4

Authors: E. Hágsater & C.H. Dodson Ilustrator: E. Hágsater Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM HOMOION Hágsater & Dodson

Plate 145

Text on the reverse side

EPIDENDRUM HOMOION Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Prov. Napo: Baeza, 98 km E of Quito on road to Tena, 1800 m, December 1988, *A. Hirtz 3959*, RPSC! (illustration voucher.)

Epidendro incompto Rchb. f. simile, sed labelli lobo mediano emarginato.

Hierba epífita, de simpodio erecto donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, hasta ca. 70 cm de alto. **Raíces** de la base de la planta y ocasionalmente de la base de los tallos superiores, carnosas, gruesas, 2.5-4 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 13-30 x 0.4-0.8 cm. **Hojas** 3-6, agrupadas hacia el ápice de cada tallo; vaina tubular, longitudinalmente estriada, hasta 4 cm de largo; lámina elíptica, aguda, margen entero, membranácea, lisa, verde claro, con las nervaduras claramente visibles, 6-12 x 1.8-2.6 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, arqueada, 5-9 cm de largo; pedúnculo lateralmente comprimido, arqueado, no ornamentado, sin espata, en ocasiones con una bráctea conduplicada de ca. 12 mm de largo. **Bráctea floral** mucho más corta que el ovario, triangular, aguda, 4-6 mm de largo. **Flores** 1-19, simultáneas, resupinadas, sépalos y pétalos verdes, labelo verde oliva o verde-amoratado, columna y antera verdes; fragancia no registrada. **Ovario** no inflado, terete, no ornamentado, 16-21 mm de largo. **Sépalos** extendidos, libres, con quilla dorsal inconspicua, glabros, membranáceos. **Sépalo dorsal** elíptico, agudo, márgenes extendidos, 5-nervado, las nervaduras laterales bifurcadas desde la base, 13-15 x 8 mm. **Sépalos laterales** obovados, agudos, algo oblicuos, márgenes extendidos, 5-nervados, las nervaduras laterales bifurcadas desde la base, 15 x 8.5 mm. **Pétalos** extendidos, obtrulados, subagudos (formando ca. un ángulo recto), 3-nervados, las nervaduras laterales bifurcadas desde la base, 8.5 x 6-6.5 mm. **Labelo** unido a la columna, trilobado, bicalloso, carnoso, márgenes enteros, base cordada, 14-16 x 26-28 mm; lóbulos laterales semiorbiculares, algo oblicuos; lóbulo medio algo más pequeño que los laterales, subcuadrado, profundamente emarginado. **Columna** recta, gruesa, 7-8 mm de largo. **Clinandrio** no prominente, margen entero. **Antera** ovoide, con una quilla roma al frente, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, los exteriores ligeramente más grandes; caudículas suaves y granulosas, más cortas que los polinios; viscidio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/4 del largo de la cavidad estigmática. **Nectario** profundo, penetrando 1/3 del ovario, liso interiormente. **Cápsula** no vista.

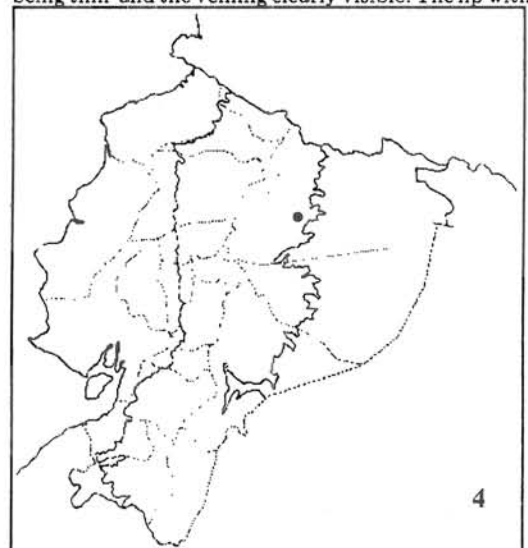
Epiphytic **herb**. **Roots** fleshy, from the base of the plant or occasionally from the base of the upper stems. **Stems** produced from a middle internode of the previous stem, simple, reed-like, straight. **Leaves** 3-6, grouped towards the apex of the stem, elliptic, membranaceous, with veins clearly visible. **Inflorescence** terminal, from the mature stem, flowers only once, arcuate, racemose. **Flowers** 1-19, simultaneous, resupinate, sepals and petals green, lip olive-green or purplish-green. **Sepals** acute, 5-veined, the lateral veins bifurcate from the base, the dorsal elliptic, the laterals obliquely obovate. **Petals** obtrullate, subacute, 3-veined, the lateral veins bifurcate. **Lip** united to the column, 3-lobed, bicallose, fleshy, base cordate; lateral lobes semiorbicular, somewhat oblique; midlobe subquadrate, deeply emarginate. **Column** straight. **Clinandrium** not prominent, margin entire. **Anther** ovoid, with a low keel in front, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose; viscidium semiliquid. **Rostellum** slit. **Nectary** deep, penetrating about 1/3 of the ovary.

OTHER SPECIMENS: ECUADOR: Napo: Luer & Hirtz 6999, SEL!

OTHER RECORDS: ECUADOR: Napo: Hágsater & Dodson 8832 (drawing and flower stuck on card), AMO! Karoly s.n. (color slides), AMO!

DISTRIBUTION AND ECOLOGY: All the known collections come from the same area between Baeza and Tena. On trees in pastures in rolling country. Flowering in the field in December.

RECOGNITION: Epidendrum homoion is superficially similar to E. incomptum Rchb. f., E. evelynae Rchb. f., E. lechleri Rchb. f., E. morganii Dodson & Garay, and E. yambalense Hágsater & Dodson. The plants are not very strong, the leaves being thin and the veining clearly visible. The lip with large semiorbicular lateral lobes and subquadrate midlobe is similar to E. incomptum, which has the midlobe acute, not emarginate. Epidendrum yambalense has acute segments, narrower lateral lobes and apiculate midlobe. Epidendrum homoion is also similar to E. curtisii A.D. Hawkes, E. superpositum Garay and E. tamaënse Foldats, all of which have an emarginate midlobe, but these species can all be distinguished by the differently proportioned floral parts.



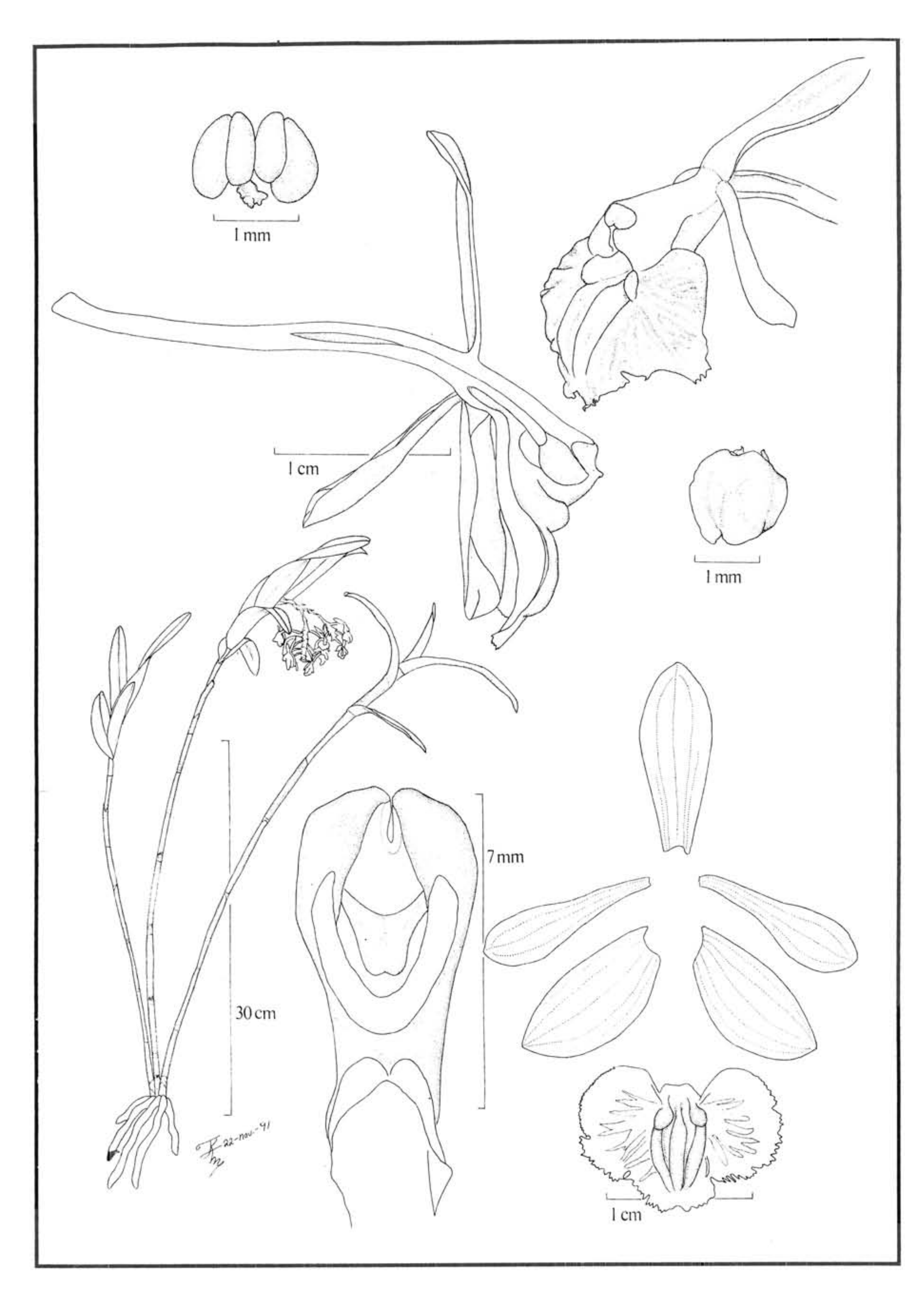
CONSERVATION STATUS: Unknown.

ETYMOLOGY: From the Greek homoion, alike, similar, in reference to the similarity to other species of this group.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM HUEYCANTENANGENSE Hágsater & García-Cruz **Plate 146**

Text on the reverse side

EPIDENDRUM HUEYCANTENANGENSE Hágsater *et* García-Cruz, *sp. nov.*

Holotype: MEXICO: Guerrero: Arriba de Hueycatenango, 1800 m, bosque de encinos, prensado 20 noviembre 1975, *E. Hágsater 4074*, AMO! Isotype: AMES! Clonotypes: 1977, MEXU! 18 noviembre 1978, W!

Epidendro costato A. Rich. & Gal. simile, sed labello obscure trilobato, apparenter integro in positione naturali, labello margine eroso-dentato, carinis labelli prominentissimis, radiatis, numerosis, et lobo mediano integro differt.

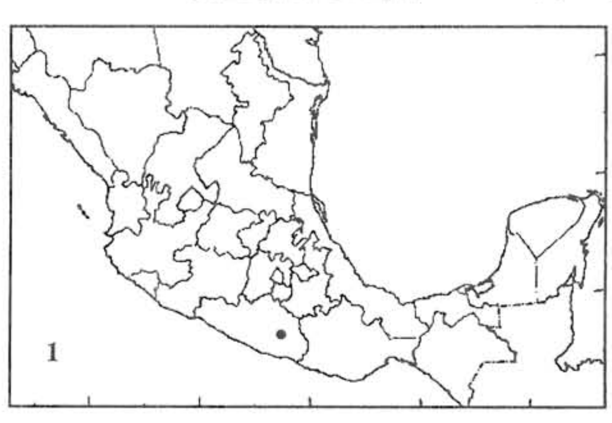
Hierba epífita, cespitosa, 33-75 cm de alto. **Raíces** basales, carnosas, gruesas, 3-7.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, ligeramente comprimidos lateralmente en el tercio apical, rectos, 27-67 cm de largo, 3-5.1 mm de grosor. **Hojas** 3-10, distribuidas en el tercio apical del tallo, verde oscuro; vaina tubular, lisa, con una quilla prominente, que es una continuación de la quilla de la lámina, papirácea, 5-60 mm de largo; lámina angostamente lanceolada, ápice obtuso, bilobado, coriácea, lisa, ligeramente carinada, verde obscuro, 6.5-14.5 x 0.9-2.5 cm. **Inflorescencia** terminal en el tallo maduro, florece durante varios años produciendo nuevos racimos de los nudos del mismo pedúnculo, densa, arqueada, en ocasiones colgante, 6-12 cm de largo; raquis terete, recto, liso; pedúnculo sin espata, con 3-5 brácteas basales, imbricadas, oblongo-triangulares, tubulares, escariosas, más grandes que las brácteas florales, 5-20 x 4-6 mm. **Bráctea floral** mucho más corta que el ovario, libre, triangular, cortamente atenuada, 2.5-4.5 x 1-1.5 mm. **Flores** 10-30, simultáneas, resupinadas, sin fragancia apreciable durante el día, carnosas, color rojo-morado, con la columna y antera completamente verdes. **Ovario** terete, liso, 20-30 mm de largo, 1.2-1.5 mm de grosor. **Sépalo dorsal** reflexo desde la base, oblanceolado, agudo, ligeramente mucronado, margen reflexo, entero, sin quilla dorsal, 3-nervado, 9-13 x 3.8-4.6 mm. **Sépalos laterales** descendentes, completamente ocultos por el labelo en vista frontal, cortamente adnados a la columna en la base, oblicuamente elípticos, agudos, mucronados, margen revoluto, entero, sin quilla dorsal, 5-nervados, 10-12.2 x 4.9-6.3 mm. **Pétalos** deflexos, espatulados, obtuso-redondeados, margen revoluto, entero, 3-nervados, 10.2-17 x 3-3.7 mm. **Labelo** unido a la columna, muy someramente trilobado, en posición natural parece entero, bicalloso, callos laminares, disco con tres carinas centrales prominentes, 8.7-11.7 x 10-15.1 mm; lóbulos laterales semiorbiculares, con 5 venas principales engrosadas y prominentes, margen irregularmente dentado, 4.5-5.9 x 6.8-9.3 mm; lóbulo medio transversalmente oblongo, someramente emarginado, margen dentado, 1.7-4 x 4-5.3 mm. **Columna** recta, obcónica, gruesa, 8-9 mm de largo, 3.5-4 mm de grosor. **Clinandrio** no prominente, entero. **Antera** reniforme, diminutamente papilosa, con una quilla roma al frente, 4-locular, 1.5 x 1.5 mm. **Polinios** 4, lateralmente comprimidos, subiguales, obovoides; caudículas granulosas, ligeramente más largas que los polinios; viscidio viscoso, transparente. **Rostelo** subapical, hendido, elíptico. **Lóbulos laterales del estigma** prominentes, de alrededor de la mitad del largo de la cavidad estigmática. **Nectario** corto, sin penetrar más allá de la base del perianto, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stems** simple, reed-like, with 3-10 narrowly lanceolate **leaves** near the apex. **Inflorescence** terminal, flowering several years, short, arcuate, with one to several racemes. **Flowers** 10-30, resupinate, odorless, purplish-red, column green. **Dorsal sepal** oblanceolate, acute, margins reflexed. **Lateral sepals** obliquely elliptic, acute, margins revolute. **Petals** spatulate, rounded-obtuse, margins revolute. **Lip** obscurely 3-lobed, fleshy; disc with 3 longitudinal keels, several radiating, thickened veins, and two basal, divergent calli; lateral lobes semiorbicular, margins dentate; midlobe transversely oblong, shallowly emarginate, margin dentate. **Column** straight, thick. **Clinandrium** entire. **Anther** reniform, minutely papillose, 4-celled. **Pollinia** 4, laterally compressed, with granulose caudicles; viscidium viscous. **Rostellum** slit. **Nectary** short, not penetrating beyond the perianth.

OTHER SPECIMENS: MEXICO: Guerrero: Hágsater 4073, AMO! 4075, AMES! AMO! ENCB! F! MEXU! MO! NY! SEL! UAMIZ! Jiménez et al. 121, AMO! Sánchez et al. 243, AMO! 251, AMO! (illustration voucher.)

DISTRIBUTION AND ECOLOGY: Endemic to Mexico, known only from the Sierra Madre del Sur in Guerrero. Epiphyte, usually on oaks in oak forest, from 1800 to 1950 m altitude. Flowering mainly from September to December.

RECOGNITION: Epidendrum hueycantenangense is distinguished from E. costatum A. Rich. & Gal. by the rather obscurely 3-lobed, fleshy lip with 3 longitudinal keels and several radiating, thickened veins, dentate margins, and semiorbicular lateral lobes. E. mixtecanum Hágsater & García-Cruz, another very similar species, is distinguished by the deeply 3-lobed lip, reniform lateral lobes and subquadrate midlobe. The differences between E. hueycantenangense and E. guerrerense, a similar, sympatric species, have been discussed under the latter species (see plate 141 of this volume). An albino form of E. hueycantenangense with entirely green perianth, is also known.



CONSERVATION STATUS: Undetermined.

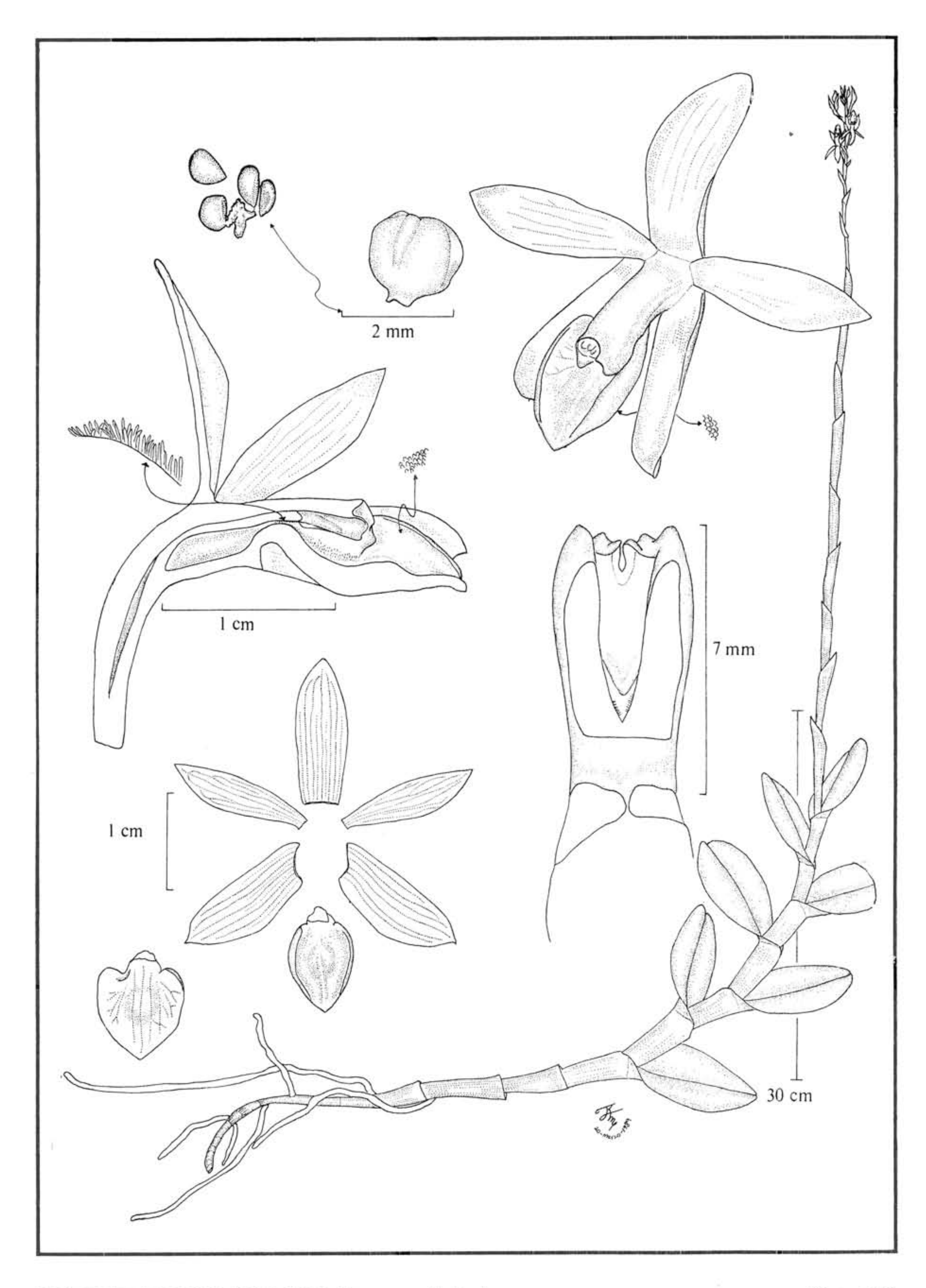
ETYMOLOGY: This species is named for the village of Hueycantenango near where the species was found. Other spellings for the name of this place are Hueycatenango and Hueycaltenango.

REFERENCE: Hágsater, E. 1977. Epidendra Mexicana Pollardiana 2: Epidendrum costatum Richard y Galeotti. Orquídea (Méx.) 6(11): 327-335.

Authors: E. Hágsater & J. García-Cruz Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM INDANZENSE Hágsater & Dodson

Text on the reverse side

Plate 147

EPIDENDRUM INDANZENSE Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Morona-Santiago: Road Gualaceo-Limón, ca. km 41.5, 2080 m, upper montane wet scrub forest, in sphagnum moss, 21 November 1988, *E. Hágsater 9632, C.H. Dodson, N. H. Williams, M. Whitten & F. G. Thompson*, QCNE! Isotypes: AMO! (illustration voucher.) MO! (sterile.)

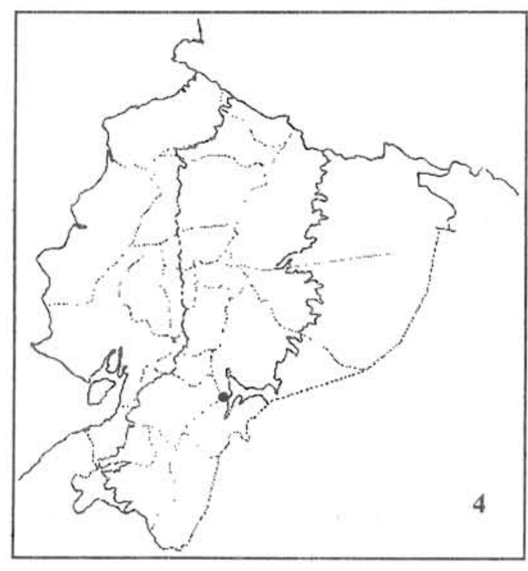
Epidendro macrostachyo Lindl. simile, sed caulibus simplicibus, valde ancipitiis, foliis elliptico-ovatis, pedunculo ancipitio quam caule longiore, erecto, successive racemos floribus successivis producenti.

Hierba litófita, decumbente, 80-120 cm de alto incluyendo la inflorescencia. Raíces producidas en los entrenudos inferiores de cada tallo, carnosas, gruesas, 3-5 mm de grosor. Tallos producidos de los entrenudos sub-basales del tallo anterior, curvados formando un arco amplio donde las partes basal y apical forman un ángulo recto, fuertemente ancipitosos, completamente cubiertos por vainas foliares, 30-60 cm de largo. Hojas equidistantes a todo lo largo del tallo, progresivamente más grandes; vaina tubular, fuertemente ancipitosa, estriada, 2-5.5 x 0.8-2.5 cm; lámina ovado-elíptica, redondeada, dorsalmente carinada, fuertemente estriada en seco, 3-10 x 2-6 cm. Inflorescencia terminal, del tallo maduro, erecta, racemosa, produciendo racimos sucesivos durante varios años, 50-70 cm de largo; pedúnculo alargado, más largo que el tallo, flexuoso, ancipitoso, cubierto por brácteas tubulares, ancipitosas, agudas, de 1.6-10 cm de largo. Flores hasta 20, sucesivas, 2-4 abiertas a la vez, no resupinadas, de color verde, el labelo más claro, sin fragancia. Sépalos obovados, los laterales algo oblicuos, agudos, carnosos, sin carinas, 9-nervados, 15 x 5-6 mm. Pétalos angostamente elípticos, agudos, 3-nervados en la base, nervaduras ramificadas arriba, 15 x 3.5 mm. Labelo unido a la columna, entero, cordiforme, carnoso, márgenes enteros, las superficies interior y exterior diminutamente papilosas, ecalloso, cóncavo en posición natural y parcialmente abrazando el ápice de la columna, ca. 10 x 9 mm. Columna recta, gruesa, ca. 6 mm de largo. Clinandrio obsoleto, margen entero. Antera ovoide, con una quilla roma el frente en la mitad superior, 4-locular. Polinios 4, semiglobosos-semiovoides, con una cara plana y la otra convexa; caudículas suaves y granulosas, de tamaño semejante a los polinios; viscidio semilíquido. Rostelo apical, hendido. Lóbulos laterales del estigma alargados, de 1/3 del largo de la cavidad estigmática. Nectario poco profundo, pentrando 1/3 del ovario, algo inflado, ornamentado en la garganta y frente a la cavidad estigmática con pelos cortos. Capsula no vista.

Lithophytic, decumbent herb. Roots thick, fleshy, from the lower internodes of the stems. Stems produced from a sub-basal internode of the previous stem, arcuate through a right angle, curving upwards to a vertical position, strongly ancipitous. Leaves equidistant along the stem, progressively larger; sheath tubular, strongly ancipitous, striate; blade elliptic-ovate, rounded, dorsally carinate, strongly striate in dried material. Inflorescence terminal, from the mature stem, erect, racemose, producing successive racemes over several years; peduncle elongated, longer than the stem, flexuous, ancipitous, covered by tubular, ancipitous, acute bracts. Flowers up to 20, successive, 2-4 open at the same time, non-resupinate, green, the lip lighter colored, without fragrance. Sepals obovate, laterals somewhat oblique, acute, fleshy, carinate, 9-veined. Petals narrowly elliptic, acute, 3-veined at the base, veins branching above. Lip united to the column, entire, cordiform, fleshy, minutely papilose, margins entire, ecallose, concave and partially embracing the column. Column straight, thick. Clinandrium obsolete, margin entire. Anther ovoid, with a low keel in front, 4-celled. Pollinia 4, semiglobose-semiovoid, one face flat, the other convex; caudicles soft and granulose, as long as the pollinia; viscidium semiliquid. Rostellum apical, slit. Lateral stigma lobes elongated, 1/3 the length of the stigmatic cavity. Nectary shallow, penetrating 1/3 of the ovary, somewhat inflated, shortly pilose in front of the stigmatic cavity.

OTHER SPECIMENS: ECUADOR: Morona-Santiago: Dodson 7736 [Hágsater 9633] et al., RPSC!

DISTRIBUTION AND ECOLOGY: Known only from Ecuador, in the Eastern Andes at around 2000-2200 m altitude in very wet scrub, growing on rocks covered with sphagnum moss. Flowering in November and probably over several months before and after.



RECOGNTION: Epidendrum indanzense looks at first glance like an oversized plant of E. anceps Jacq. with flowers of E. macrostachyum Lindl. The plants are decumbent, the stems very strongly ancipitous, with ovate-elliptic leaves, very elongated, ancipitous peduncles longer than the stem proper, and erect, successive racemes producing succesive flowers, the sepals about 15 mm long and the lip cordiform. The species is unique in this combination of characters. In other members of the E. macrostachyum group the flowers are similar but usually simultaneous, the leaves are narrower and the stems usually are branching in old plants; the short peduncles are not covered by long ancipitous bracts.

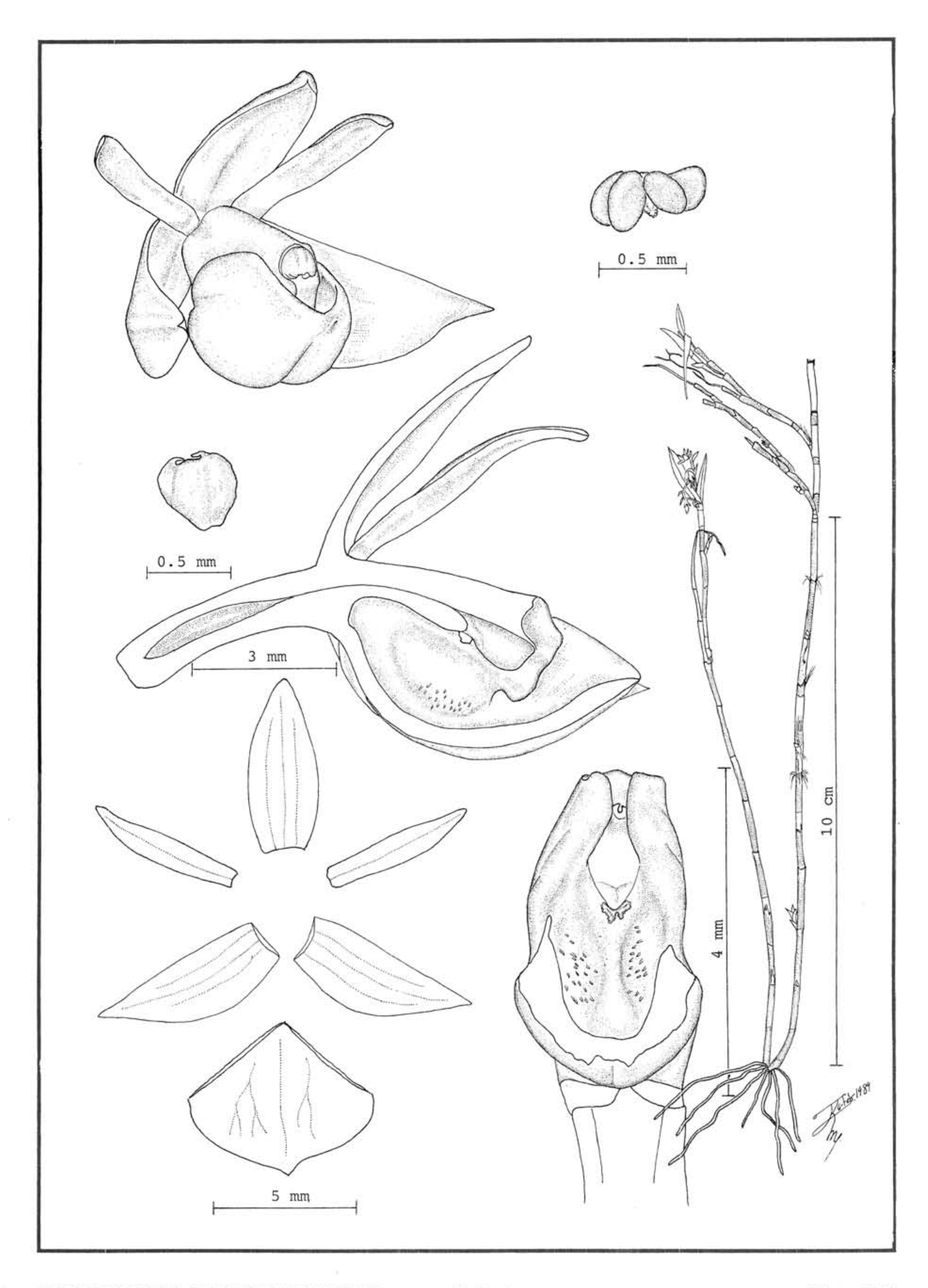
CONSERVATION STATUS: Probably not threatened. The habitat where this species grows, including roadsides, is not suitable for agriculture.

ETYMOLOGY: From the town of Indanza, near where this species was collected.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM INSIGNIFICANS Hágsater & Dodson — **Plate 148**

Text on the reverse side

EPIDENDRUM INSIGNIFICANS Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Prov. Morona-Santiago: Camino Gualaceo-Limón, ca. km 24, después del paso de la cordillera, 3100 m, colecta 21 noviembre 1988, prensado 21 febrero 1989, *E. Hágsater 9624, C.H. Dodson [17729], N.H. Williams, M. Whitten & F.G. Thompson*, AMO! (illustration voucher.)

Herba lithophytica, erecta, caule prope apicem ramificanti; inflorescentia terminali, racemosa vel paniculata, arcuata; floribus successivis, petalis lineari-lanceolatis, labello semiorbiculari, apiculato, ecalloso, columnae apicem paulo amplectenti.

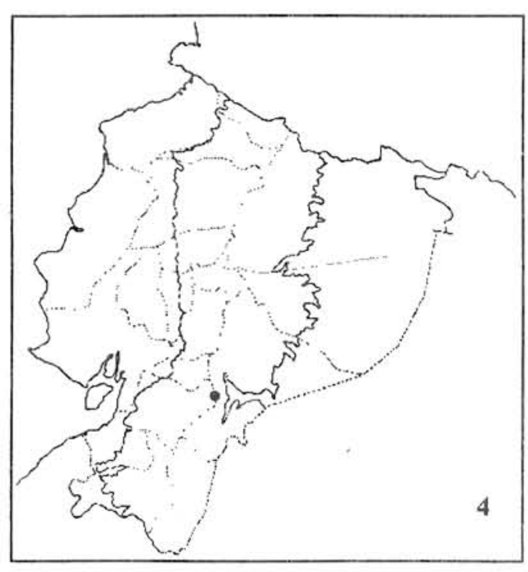
Hierba litófita, cespitosa, ramificada, 60-80 cm de alto. **Raíces** carnosas, delgadas. **Tallos** erectos, teretes, ramificados arriba cuando maduros, el principal 50-80 x 0.3-0.4 cm, las ramas más cortas, ca. 16 cm de largo. **Hojas** distribuidas a todo lo largo del tallo, las inferiores caedizas; vaina tubular, lisa, finamente estriada en material seco, 1-3.5 cm de largo; lámina angostamente elíptico-lanceolada, aguda, 4.5-6.5 x 0.6 cm. **Inflorescencia** terminal, racemosa a paniculada, produce racimos nuevos en años sucesivos, arqueada, 4.5-6 cm de largo; pedúnculo sin espata, con una bráctea basal, acuminada, de ca. 12 mm de largo. **Bráctea floral** triangular, acuminada, más larga que el ovario, 5-10 x ca. 2 mm. **Flores** sucesivas, desarrollándose una a la vez, resupinadas. **Ovario** recto, no inflado, 4.5 mm de largo. **Sépalo dorsal** entreabierto, ovado, obtuso-redondeado, 3-nervado, carnoso, 6 x 2.5 mm. **Sépalos laterales** entreabiertos, oblicuamente ovados, agudos, 3-nervados, carnosos, 6.5 x 2.5 mm. **Pétalos** entreabiertos, linear-lanceolados, rectos, agudos, 1-nervados, 5.5 x 1 mm. **Labelo** unido a la columna, la porción libre semiorbicular, apiculada, ecallosa, abrazando parcialmente el ápice de la columna, 2.5 x 6.5 mm. **Columna** recta, gruesa, 4 mm de largo. **Clinandrio** corto, margen entero. **Antera** ovoide, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas pequeñas, granulosas; viscidio semilíquido. **Rostelo** subapical, hendido, pequeño. **Lóbulos laterales del estigma** obsoletos. **Nectario** formando una cavidad globosa entre la columna y la base del labelo, sin penetrar más allá del perianto, con una prominencia papilosa y esponjosa a cada lado. **Cápsula** no vista.

Caespitose, lithophytic herb. **Roots** fleshy, thin. **Stems** terete, branching above when mature, the branches smaller than the main stem. **Leaves** distributed throughout the stems; sheath tubular, finely striate in dried material; blade narrowly elliptic-lanceolate, acute. **Inflorescence** terminal, racemose to paniculate, producing new racemes over the years, arcuate, without spathe, with an acuminate basal bract. **Floral bracts** triangular, acuminate, longer than the ovary. **Flowers** successive, developing one at a time, resupinate. **Ovary** straight, not inflated. **Dorsal sepal** ovate, obtuse-rounded, 3-veined, fleshy. **Lateral sepals** obliquely ovate, acute, 3-veined, fleshy. **Petals** linear-lanceolate, straight, acute, 1-veined. **Lip** united to the column and partly embracing its apex, the free portion semiorbicular, apiculate, ecallose. **Column** straight, thick. **Clinandrium** short, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles small, granulose; viscidium semiliquid. **Rostellum** subapical, slit. **Lateral stigma lobes** obsolete. **Nectary** a globose cavity between column and lip, not penetrating beyond the perianth, with a papillose, spongy prominence on either side.

DISTRIBUTION AND ECOLOGY: Known only from the type. In high páramo on rocky, wet ground at 3100 m altitude, found close to Odontoglossum odoratum Lindl. Flowering in February.

RECOGNITION: This species is recognized by its erect, caespitose plant with stems branching near the apex, arcuate inflorescences with triangular bracts, flowers opening one at a time, and lip very small, semicircular, apiculate and partly embracing the apex of the column. The habit of the plant is reminiscent of E. guacamayense Hágsater & Dodson, which has a much longer, zigzag inflorescence, narrower linear petals only 0.5 mm wide, and reniform lip which embraces completely the apex of the column.

CONSERVATION STATUS: Unknown.

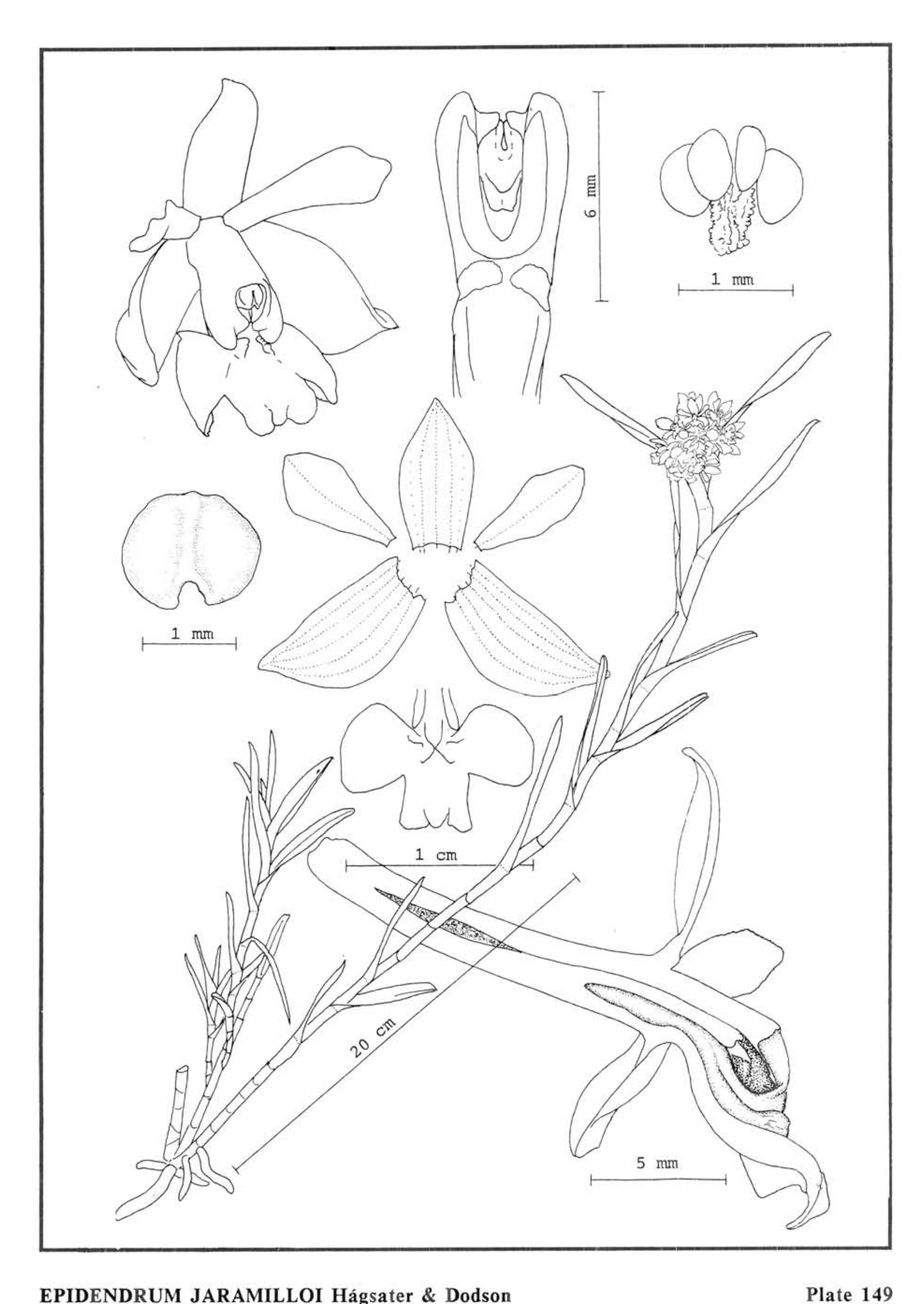


ETYMOLOGY: From the Latin in-, without, not, and significans, distinct, clear, in alusion to the inconspicuousnes of the plants and flowers of this species.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM JARAMILLOI Hágsater & Dodson

Text on the reverse side

Plate 149

EPIDENDRUM JARAMILLOI Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Pichincha; Chillogallo-Sto. Domingo de Los Colorados, 8.8 km al W de Chillogallo, antes del Paso San Juan, 3110 m, colecta 8 diciembre 1986, prensado 17 mayo 1989, *E. Hágsater 8999 & C. H. Dodson*, AMO! (illustration voucher.) Clonotype: prensado 8 diciembre 1986, QCNE! (as *Dodson 16688 & Hágsater 8999.*)

Epidendro cernuo H.B.K. simile, sed labelli lobo mediano lateralium similari.

Hierba terrestre o litófita, cespitosa, erecta, 40-70 cm de alto. **Raíces** solamente de la base del tallo principal, carnosas. **Tallos** erectos, teretes, rectos, ramificados arriba cuando maduros, el principal 30-60 cm de largo, 5-6 mm de grosor; ramificaciones pequeñas, ca. 7 cm de largo, 3-4 mm de grosor. **Hojas** distribuidas a lo largo de los tallos; vaina tubular, rugulosa, hasta 4 cm de largo; lámina angostamente lanceolada, redondeado-retusa, dorsalmente carinada, margen apical diminutamente eroso, las del tallo principal más grandes, 4-7 x 1-1.1 cm, las ramificaciones con 4-5 hojas, 2-4 x 0.8-0.9 cm. **Inflorescencia** terminal, del tallo principal y de las ramificaciones, racemosa, arqueado-colgante, florece una sola vez, 3-5 cm de largo, sin espata ni brácteas en la base. **Bráctea floral** triangular, acuminada, ca. 2 mm de largo. **Flores** 6-12, simultáneas, resupinadas, color verde pálido. **Ovario** algo dilatado hacia el ápice, no inflado, 8-10 mm de largo. **Sépalo dorsal** extendido, obovado, agudo, carnoso, 5-nervado, 9 x 4 mm. **Sépalos laterales** entreabiertos, ovados, subacuminados, oblicuos, dorsalmente carinados, carnosos, 6-nervados, 10 x 5-6 mm. **Pétalos** espatulados, ápice redondeado a obtuso, margen eroso-denticulado, membranáceos, 3-nervados, las nervaduras laterales algo ramificadas, 8 x 4 mm. **Labelo** unido a la columna, trilobado, bicalloso, los callos prolongados en un par de quillas carnosas, romas, 8 x 12 mm; lóbulos laterales semejantes en tamaño al lóbulo medio, extendidos, semiovados, margen eroso-denticulado; lóbulo medio subrectangular, ligeramente cuneado, emarginado, con un apículo amplio, margen apical eroso. **Columna** recta, terminada a cada lado en un ala gruesa, carnosa, triangular, 5 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** subesférica, 4-locular, ápice emarginado. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, del mismo largo que los polinios. **Rostelo** hendido. **Lóbulos laterales del estigma** prominentes. **Nectario** poco profundo, apenas penetrando detrás del perianto, no ornamentado. **Cápsula** no vista.

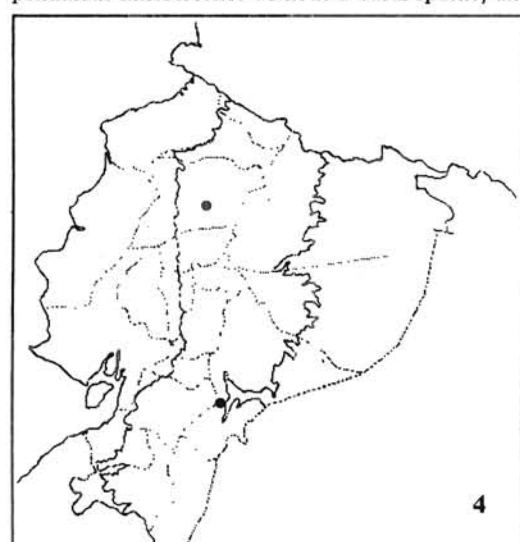
Terrestrial or lithophytic, caespitose herb. **Roots** basal, fleshy. **Stems** erect, terete, branching subapically when mature. **Leaves** distributed along the stems, narrowly lanceolate, rounded-retuse, dorsally carinate, margin minutely erose, those of the branches smaller. **Inflorescence** terminal, racemose, arcuate, nodding, short, without spathe, flowers only once. **Floral bract** very short, triangular. **Flowers** 6-12, simultaneous, resupinate, light green. **Ovary** short, thickened towards the apex. **Dorsal sepal** obovate, acute, fleshy, 5-veined. **Lateral sepals** ovate, subacuminate, dorsally carinate, fleshy, 6-veined. **Petals** spatulate, rounded to obtuse, margins erose-denticulate, 3-veined. **Lip** united to the column, 3-lobed, bicallose; lateral lobes similar in size to the midlobe, semiovate; midlobe subrectangular, slightly cuneate, emarginate, with a wide mucro, apical margin somewhat erose. **Column** straight. **Clinandrium** obsolete. **Anther** subspherical, emarginate. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose. **Rostellum** apical, slit. **Lateral stigma lobes** prominent. **Nectary** shallow, just penetrating beyond the perianth.

OTHER SPECIMENS: ECUADOR: Morona-Santiago: Dodson, Dodson, Jaramillo* & Barahona 15483, RPSC!

*NOTE: The specimen indicates "S. Jaramillo", but the initial should be "J".

DISTRIBUTION AND ECOLOGY: Known only from Ecuador, found near the Andean páramos at 2900-3100 m altitude, terrestrial or lithophytic. Flowering in December and January.

RECOGNITION: Epidendrum jaramilloi belongs to the E. cernuum H.B.K. group, characterized by the erect, reed-like stems with subapical branching, the oblong, obtuse to apically bilobed, subcoriaceous leaves, the racemose, arcuate to pendulous inflorescence without a basal spathe, and the 3-lobed lip. E. jaramilloi can be recognized by the compact, nodding inflorescence, the large lateral lobes about the same size as the midlobe, the midlobe somewhat cuneate, emarginate, with a wide mucro, and the petals spatulate, rounded-obtuse. Epidendrum cernuum has the midlobe of the lip three times as large as the lateral lobes. Epidendrum chioneum Lindl., another similar species, has the midlobe twice as large as the lateral lobes.



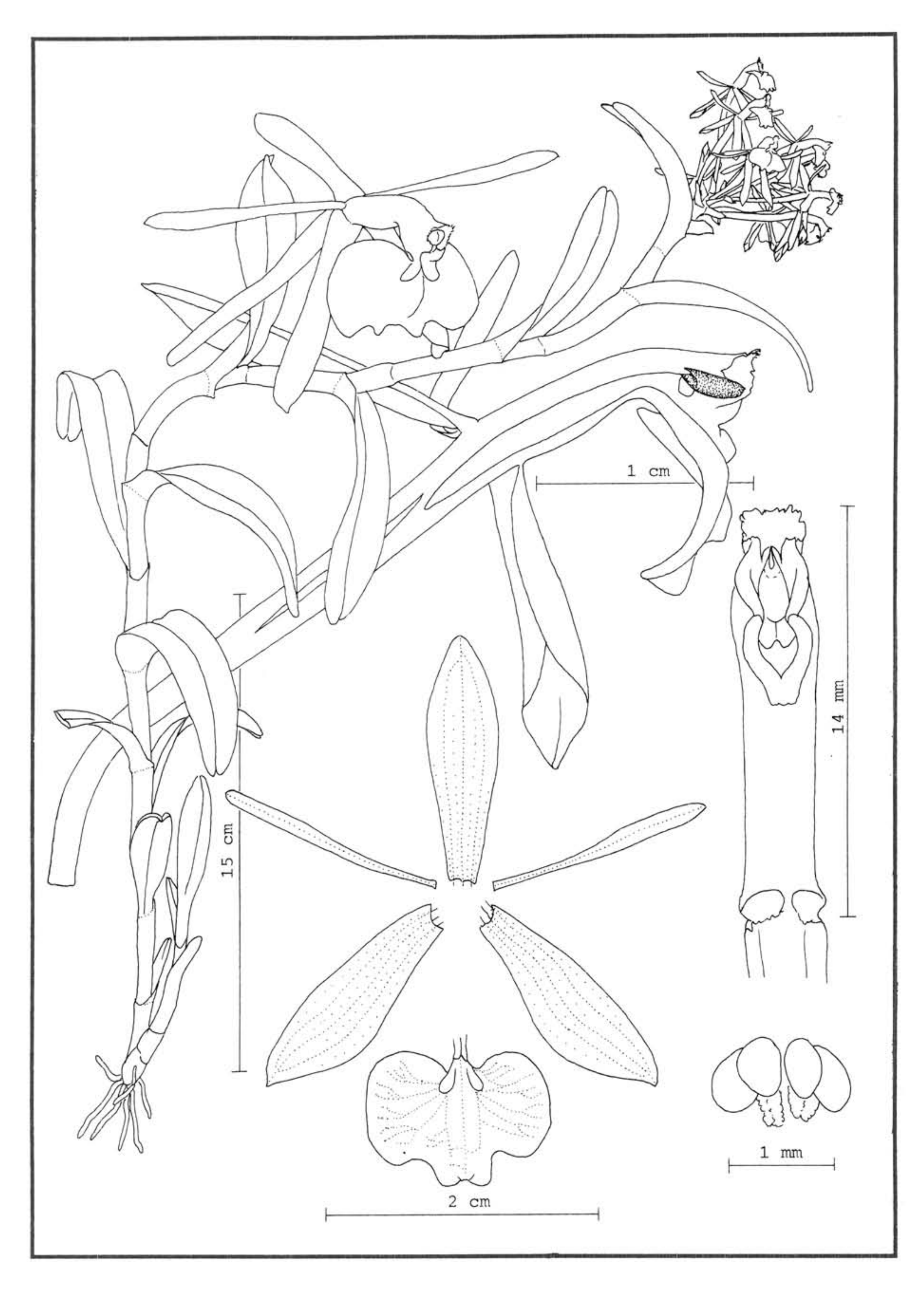
CONSERVATION STATUS: Unknown.

ETYMOLOGY: Named in honor of Professor Jaime Jaramillo, Curator of the Herbarium of the Pontificia Universidad Católica del Ecuador, Quito (QCA) and specialist in Andean vegetation.

Authors: E. Hágsater & C.H. Dodson   Ilustrator: E. Hágsater   Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM LAGENOCOLUMNA Hágsater & L. Sánchez

Plate 150

Text on the reverse side

EPIDENDRUM LAGENOCOLUMNA Hágsater *et* L. Sánchez, *sp. nov.*

Holotype: COSTA RICA: San José, Tarbaca, estación rastreadora, ca. 1800 m, colecta 20 marzo 1981, prensado 16 junio 1992, *E. Hágsater 6754, C. K. Horich, R. L. Dressler, W. & B. Thurston*, AMO! Isotypes: AMES! CR! ENCB! IBUG! K! MEXU! MO! US! XAL! Clonotypes: 24 agosto 1987, AMO! (illustration voucher.) SEL!

Epidendro firmo Rchb. f. simile, sed differt plantis majoribus, foliis ellipticis, floribus 4-8, lobis lateralibus labelli semiorbicularibus, lobo mediano retuso, callis subovatis, rotundatis, columnae basi inflata, et clinandrio eroso vel dentato.

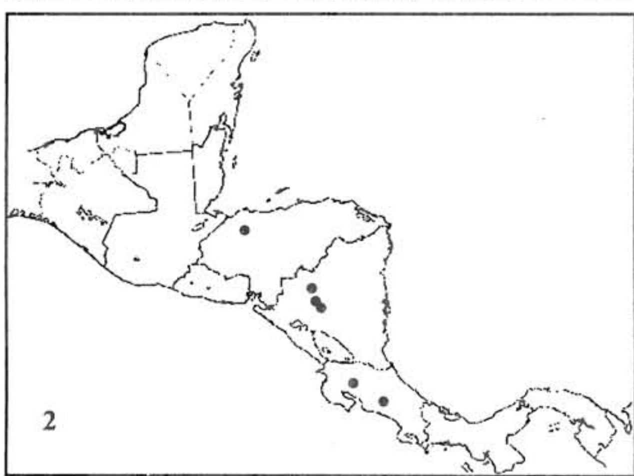
Hierba epífita, caespitosa, 15-45 cm de alto. Raíces basales, carnosas, 1-2 mm de grosor. Tallos sencillos, tipo caña, teretes, ligeramente flexuosos, 11-40 cm de largo. Hojas 4-15, distribuidas a lo largo del tallo; vaina tubular, lisa; lámina angostamente elíptica, ápice asimétricamente bilobado, margen entero, subcoriácea, lisa, verde claro a oscuro, 2-8 x 0.8-2 cm. Inflorescencia terminal en el tallo maduro, florece una sola vez, sésil, subumbelada. Bráctea floral mucho más corta que el ovario, 3-8 mm de largo. Flores 4-8, simultáneas, resupinadas, con fragancia nocturna débil, dulce, recuerda a la del "Huele de noche" (Cestrum spp.), color verde brillante, el labelo ligeramente translúcido. Ovario no inflado, terete, no ornamentado, 30-45 mm de largo. Sépalos subcoriáceos, libres, glabros. Sépalo dorsal elíptico-oblanceolado, agudo-redondeado, fuertemente reflexo, márgenes enteros, revolutos, 3-nervado, 13-18 x 4-5.5 mm. Sépalos laterales extendidos, elíptico-oblanceolados, ligeramente falcados, agudos, márgenes enteros, revolutos, 3-nervados con 4 nervios secundarios, 13-18 x 4-6 mm. Pétalos membranáceos, angostamente linear-oblanceolados, redondeados a obtusos, márgenes enteros, extendidos, 1-nervados, 13-17 x 0.8-1.3 mm. Labelo unido a la columna, trilobado, bicalloso, los callos subovados, redondeados, engrosado en el centro formando una carina muy baja, 9-10 x 12-14 mm; lóbulos laterales semiorbiculares, márgenes enteros; lóbulo medio subcuadrangular, apice retuso. Columna arqueada en el tercio apical, inflada en la base, 12-15 mm de largo. Clinandrio prominente, obcónico, margen eroso a dentado. Antera ovoide, 4-locular. Polinios 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, semejantes en longitud a los polinios; viscidio viscoso, translúcido. Rostelo apical, hendido. Lóbulos laterales del estigma prominentes, de 1/4 del largo de la cavidad estigmática. Nectario poco profundo, penetrando ligeramente el ovario, no ornamentado. Cápsula no vista.

Epiphytic, caespitose herb. Stems simple, somewhat flexuous, terete. Leaves 4-15, narrowly elliptic, apices unequally bilobed, subcoriaceous. Inflorescence terminal, flowers only once, subumbellate, sessile. Flowers 4-8, simultaneous, resupinate, delicately and sweetly fragrant at night. Ovary not inflated. Sepals subcoriaceous, glabrous, free, the dorsal strongly reflexed, the laterals spreading. Dorsal sepal elliptic-oblanceolate, acute to rounded, margins entire, revolute, 3-veined. Lateral sepals elliptic-oblanceolate, somewhat falcate, acute, margins entire, revolute, 3-veined with 4 secondary veins. Petals membranaceous, narrowly linear-oblanceolate, obtuse to rounded, margins entire, spreading, 1-veined. Lip united to the column, 3-lobed, bicallose, the calli subovate, rounded; lateral lobes semiorbicular, margin entire; midlobe subquadrangular, retuse. Column arcuate, inflated at the base. Clinandrium prominent, obconical, margin erose to dentate. Anther ovoid, unornamented, 4-celled. Polinia 4, obovoid, laterally compressed, subequal; caudicles soft and granulose, as long as the pollinia; viscidium viscous, translucent. Rostellum apical, slit. Lateral stigma lobes prominent. Nectary short, slightly penetrating the ovary.

OTHER SPECIMENS: COSTA RICA: Alfaro s.n., Alfaro 25, US! Brenes 569(7), AMES! Dodson 2428, SEL! Goméz s.n., CR! Hágsater et al. 8333, AMO! BR! F! NY! PMA! 8334, AMO! Smith H-587, AMES! Puntarenas: Hágsater et al. 7065, AMO! MICH! Alajuela: Chacón 305, AMO! 469, AMO! Dwyer 1369, CR! Smith 474, SEL! San José: Standley 43080, AMES! Todzia & Pohl 1931, CR! NY! Guanacaste: Hágsater et al. 9451, AMO! K! P! Cartago: Standley 41505, AMES! Standley & Valerio 49565, AMES! HONDURAS: Cortés: Yuncker 4841, AMES! NICARAGUA: Heller s.n., SEL! Nueva Segovia: Heller 10471 (voucher of the illustration and description published by Hamer, 1985, as Neolehmannia curvicolumna [A.H.S.] Hamer), SEL! Matagalpa: Guzman et al. 235, MO! Jinotega: Guzman et al. 236, MO!

DISTRIBUTION AND ECOLOGY: Known from Honduras, Nicaragua and Costa Rica. Epiphyte, in humid montane forest from 400 to 2500 m altitude. Flowering from April to November.

RECOGNITION: Epidendrum lagenocolumna is a member of the E. difforme Jacq. complex, and can be recognized by the large plants with elliptic leaves, lip 3-lobed with two subovate, rounded calli, semiorbicular lateral lobes, subquadrangular, retuse midlobe, and column inflated at the base, with the nectary unusually wide. It is closely related to E. firmum Rchb. f., which has smaller plants with narrow elliptic to lanceolate leaves, 2-4 flowers, semiovate lateral lobes of the lip, divergent, acute calli, fimbriate clinandrium, and the base of the column not inflated.



CONSERVATION STATUS: Probably not threatened. It is a common species.

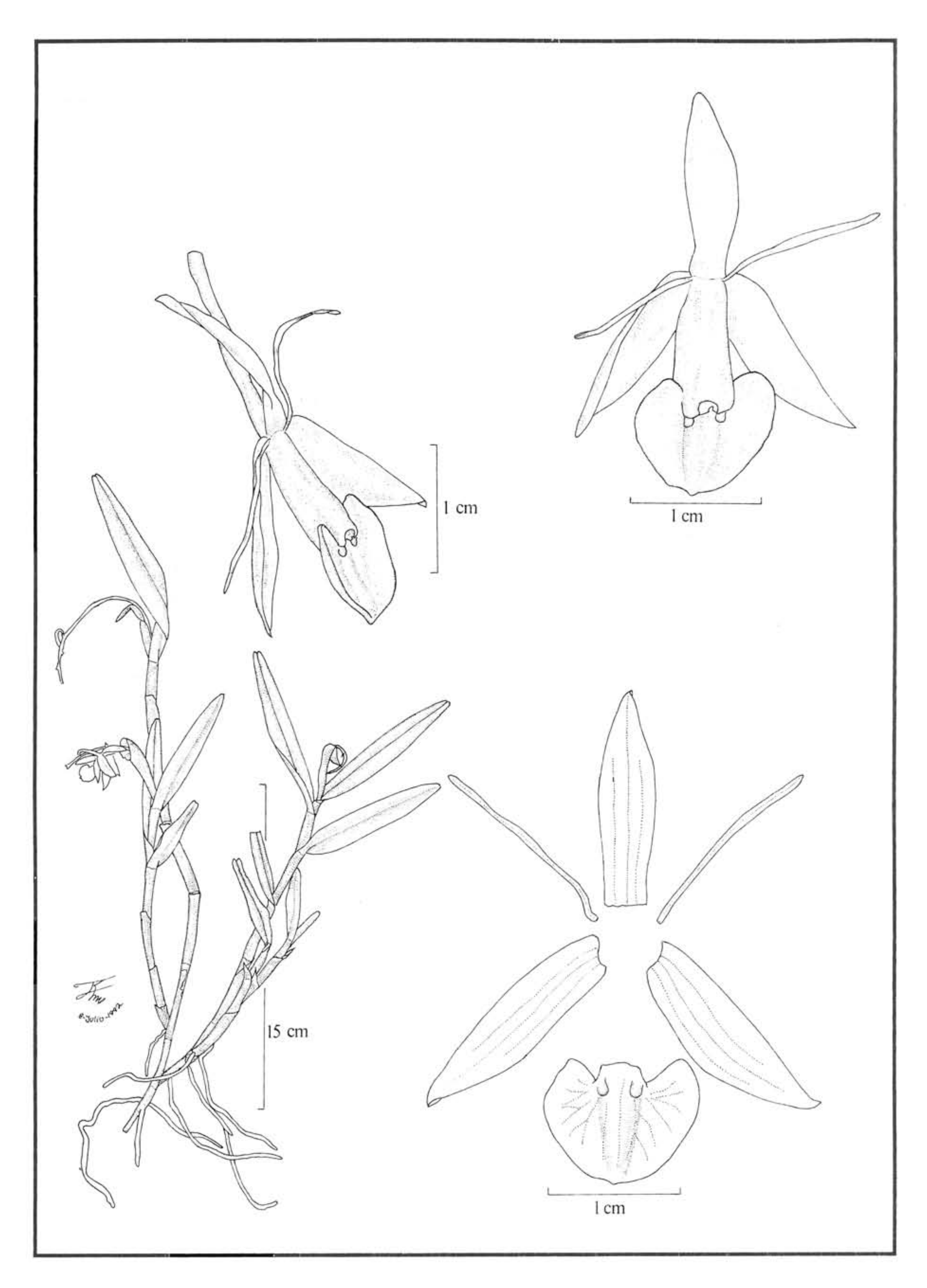
ETYMOLOGY: From the Greek láginos, a flask or jug, in reference to the swelling at the base of the column.

REFERENCE: Hamer, F. 1985. Neolehmannia curvicolumna (A.H.S.) Hamer. Icon. Pl. Trop. 13: pl. 1237.

Authors: E. Hágsater & L. Sánchez Ilustrator: E. Hágsater Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM LEIMEBAMBENSE Hágsater

Plate 151

Text on the reverse side

EPIDENDRUM LEIMEBAMBENSE Hágsater, *sp. nov.*

Holotype: PERU: Amazonas: Prov. Chachapoyas; Cerros Calla Calla, 26 km above Leimebamba on the road to Balsas, km 403, 3360 m, 1964, *P.C. Hutchison 6979 & J.K. Wright*, AMES! (illustration voucher.) Isotypes: UC, US! USM, F, NY!

Epidendro buchtienii Schltr. simile, sed differt habitu scandenti et labello cordiformi margine integro.

Hierba escandente, de ca. 30 cm de alto. **Raíces** producidas de los entrenudos basales de cada tallo, carnosas, 2-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, producidos del segundo o tercer entrenudo del tallo anterior, 15-18 x 0.3-0.5 cm. **Hojas** 3, distribuidas en la mitad apical del tallo, el resto del tallo cubierto cuando joven por vainas tubulares, escariosas; vaina tubular, lisa, 2-3.4 x 0.3-0.4 cm; lámina elíptico-lanceolada, ápice desigualmente bilobado, margen entero, subcoriácea, lisa, 3-10 x 0.7-1.7 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, arqueada, 5-10 cm de largo; pedúnculo corto, terete, 3-4.5 cm de largo, con una espata de 4 x 0.4-0.6 cm; raquis terete, no ornamentado. **Bráctea floral** obsoleta, hasta 1.5 mm de largo. **Flores** sucesivas, 3-7, aparentemente resupinadas, de color "verde pálido, sépalos con 3-4 lineas longitudinales morado pálido, labelo diminutamente moteado de morado pálido". **Ovario** algo dilatado progresivamente hacia el ápice, terete, 14 mm de largo. **Sépalo dorsal** reflexo, angostamente oblongo-elíptico, agudo, con una quilla dorsal apical baja, márgenes extendidos, 3-nervado, 14-15 x 4 mm. **Sépalos laterales** entreabiertos, angostamente oblongo-elípticos, agudos, con una quilla dorsal apical baja, márgenes extendidos, 3-nervados, 15-16 x 4.5 mm. **Pétalos** extendidos, membranáceos, filiformes, obtusos, márgenes extendidos, uninervados, 10-13 x 0.5 mm. **Labelo** unido a la columna, entero, cordiforme, cortamente mucronado, márgenes enteros, bicalloso, con una carina central roma que se extiende hasta el ápice, carnoso, 8 x 11 mm. **Columna** recta, 9.5 mm de largo. **Clinandrio** corto, margen entero. **Antera, polinario, nectario y cápsula** no vistos.

Scandent herb. **Roots** produced from the basal internodes of each stem, fleshy. **Stems** simple, reed-like, terete, produced from the second or third internode of the previous stem. **Leaves** 3, distributed along the apical half of the stem; sheath tubular, smooth; blade elliptic-lanceolate, apex unequally bilobed, margin entire, subcoriaceous. **Inflorescence** terminal, from the mature stem, flowers only once, racemose, arcuate, with a short peduncle subtended by a narrow spathe. **Floral bracts** obsolete. **Flowers** successive, 3-7, apparently resupinate, "pale green, sepals with 3-4 pale dull purplish lines longitudinally, lip minutely flecked dull purplish". **Ovary** somewhat progressively dilated toward the apex, terete. **Dorsal sepal** reflexed, narrowly oblong-elliptic, acute, with a low dorsal keel, margins entire, 3-veined. **Lateral sepals** partly open, narrowly oblong-elliptic, acute, with a low dorsal keel, margins entire, 3-veined. **Petals** spreading, filiform, obtuse, 1-veined. **Lip** united to the column, entire, cordiform, shortly mucronate, margins entire, bicallose, with a low, fleshy keel running down to the apex, fleshy. **Column** straight. **Clinandrium** short, entire.

DISTRIBUTION AND ECOLOGY: Known only from the type. Flowering in October.

RECOGNITION: Epidendrum leimebambense is similar to E. buchtienii Schltr., but differs in the scandent habit and the cordiform lip with entire margins.

CONSERVATION STATUS: Unknown.

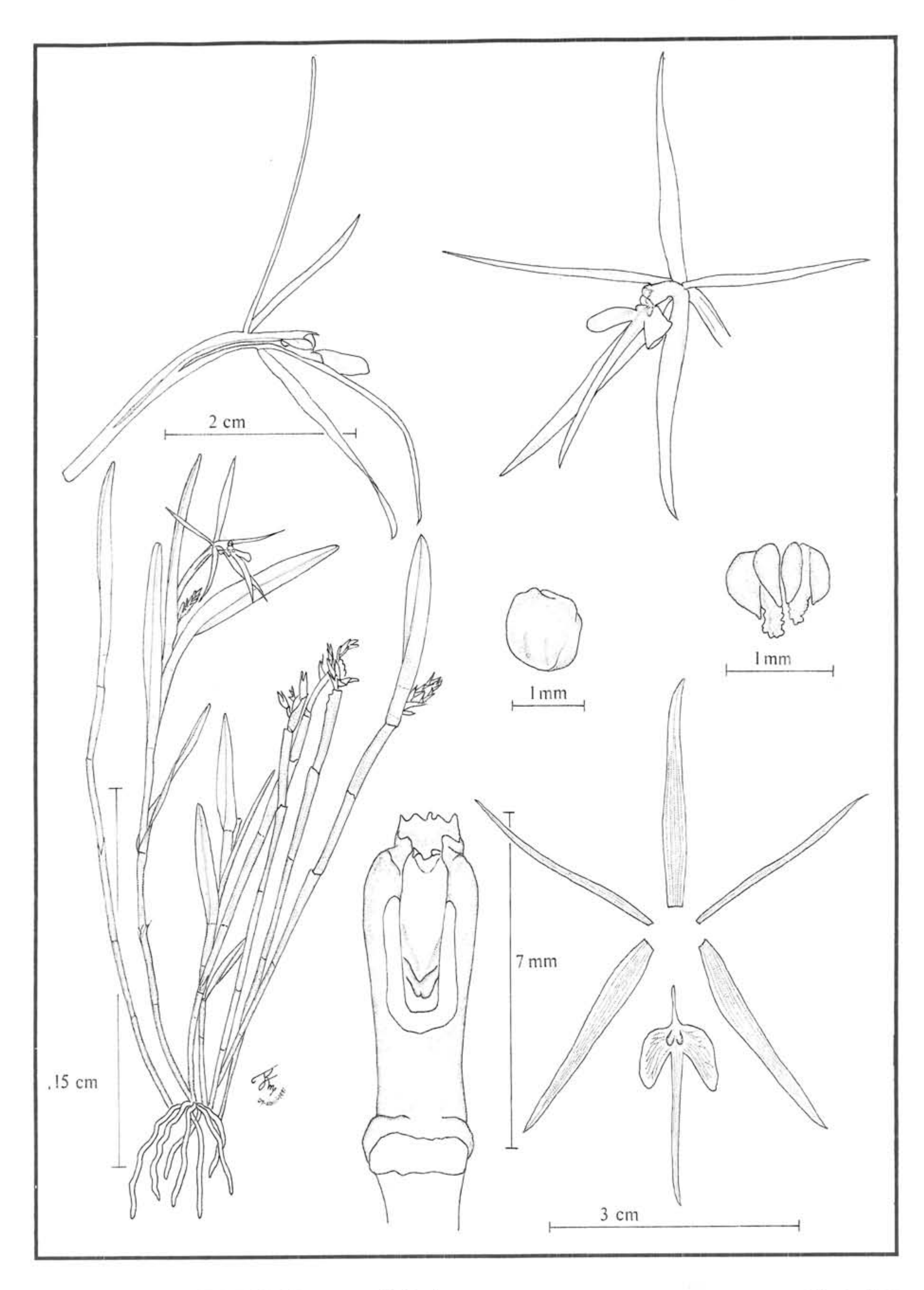
ETYMOLOGY: The name refers to the town of Leimebamba, close to the locality where the type was collected.



Author: E. Hágsater   Ilustrator: R. Jiménez   Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM LITENSE Hágsater & Dodson

Text on the reverse side

Plate 152

EPIDENDRUM LITENSE Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Esmeraldas; km 12-25 Lita to Alto Tambo along newly opened road, 800 m, *A. Hirtz 3504*, QCNE! Isotype: AMO!

Epidendro nocturno Jacq. var. minus Cogn. simile, sed caulibus, foliis et segmentis floralibus angustioribus.

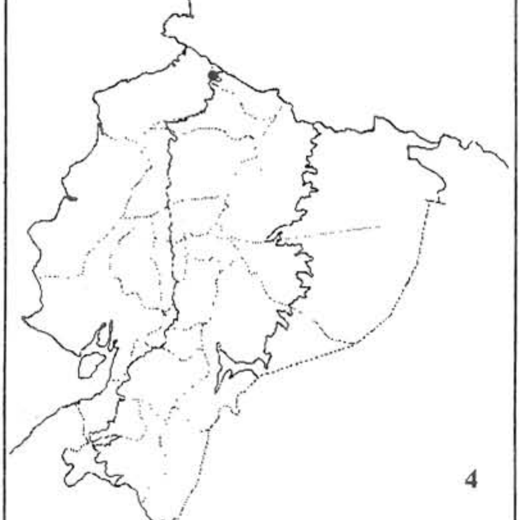
Hierba epífita, cespitosa, 10-28 cm de alto. **Raíces** basales, carnosas, gruesas, 1-2 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos, distalmente ancipitosos, rectos, 6-13 cm de largo, 1-1.5 mm de ancho en la base, 2-4 mm de ancho cerca de ápice. **Hojas** 4-6, distribuidas en la mitad apical del tallo; vaina tubular, ancipitosa, lisa, 2-4.3 cm de largo; lámina angostamente elíptico-lanceolada, ápice bilobulado, margen entero, coriácea, lisa, verde claro, 1.7-1 x 0.3-0.95 cm. **Inflorescencia** terminal, del tallo maduro, florece durante varios años, originalmente racemosa pero con el tiempo produciendo ramas a su vez racemosas que florecen simultáneamente, erecta, hasta 2 cm de largo, sin espata, con brácteas imbricadas de hasta 4.5 mm de largo. **Bráctea floral** mucho más corta que el ovario, ovada a triangular-acuminada, hasta 6 mm de largo. **Flores** producidas sucesivamente durante varios años, hasta 15 en un racimo, una a la vez por racimo pero puede haber dos o tres de diferentes racimos de la misma inflorescencia al mismo tiempo, resupinadas, con fragancia nocturna débil, dulce, semejante a la de la gardenia; sépalos cobrizos por fuera, verdosos por dentro, pétalos verde pálido, labelo y columna blancos. **Ovario** no inflado, terete, no ornamentado, 26-36 mm de largo. **Sépalos** extendidos, libres, glabros, membranáceos, angostamente lanceolados, atenuados, márgenes algo revolutos, el dorsal 9-nervado, los laterales 8-nervados, 28-35 x 3 mm. **Pétalos** extendidos, sublineares, atenuados, membranáceos, márgenes extendidos, 3-nervados en la base, los nervios laterales subdivididos arriba, 28-32 x 1.1 mm. **Labelo** unido a la columna, trilobado, bicalloso, membranáceo, 22-26 x 10 mm; lóbulos laterales triangular-falcados, redondeados; lóbulo medio muy largo, ensiforme, atenuado, márgenes enteros. **Columna** recta, delgada, 7-8 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, irregularmente dentado. **Antera** subglobosa, 4-locular. **Polinios** 4, semiovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, ligeramente más largas que polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños. **Nectario** profundo, penetrando 1/3 del ovario, liso interiormente. **Cápsula** no vista.

Epiphytic, caespitose **herb**. **Stems** simple, reed-like, distally ancipitous. **Leaves** 4-6, narrowly elliptic-lanceolate, light green. **Inflorescence** originally racemose, later producing further racemes, each producing one flower at a time, but 2-3 racemes of the same inflorescence may have flowers simultaneously. **Flowers** succesive, resupinate, with nocturnal fragrance of gardenia, sepals and petals bronzy-green, lip and column white. **Sepals** spreading, membranaceous, narrowly lanceolate, attenuate. **Petals** spreading, membranaceous, sublinear, attenuate. **Lip** united to the column, 3-lobed, bicallose, membranaceous; lateral lobes triangular-falcate, rounded; midlobe ensiform, attenuate. **Column** straight, slender. **Clinandrium** prominent, irregularly toothed. **Anther** subglobose, 4-celled. **Pollinia** 4, subequal, semiovoid, laterally compressed. **Nectary** penetrating 1/3 of the ovary.

OTHER SPECIMENS: ECUADOR: Esmeraldas: Dodson et al. 17327, RPSC! Hágsater et al. 10645, AMO! (illustration voucher.)

DISTRIBUTION: Known only from the type locality in the province of Esmeraldas, Ecuador, but expected to be found in Colombia along the Pacific rain forests. Epiphyte, in mountain rain forest, from about 640 to 800 m altitude. Flowering from May to August and probably throughout the year.

RECOGNITION: Epidendrum litense can be easily recognized by the small plants and flowers reminiscent of Epidendrum nocturnum Jacq., and especially similar to those of E. nocturnum var. minus Cogn., found in the Amazon basin (i.e., on the other side of the Andes), which has wider floral segments, the petals being some 3 mm wide, and the stems and leaves are also wider. The same holds true for E. longicolle Lindl. Epidendrum buenaventurae F. Lehm. & Kraenzl., which is found further up the coast, in Colombia, can be easily distinguished by the larger habit and flowers, the leaves being 3-9 x 0.8-2 cm and the petals 35-40 x 3 mm.



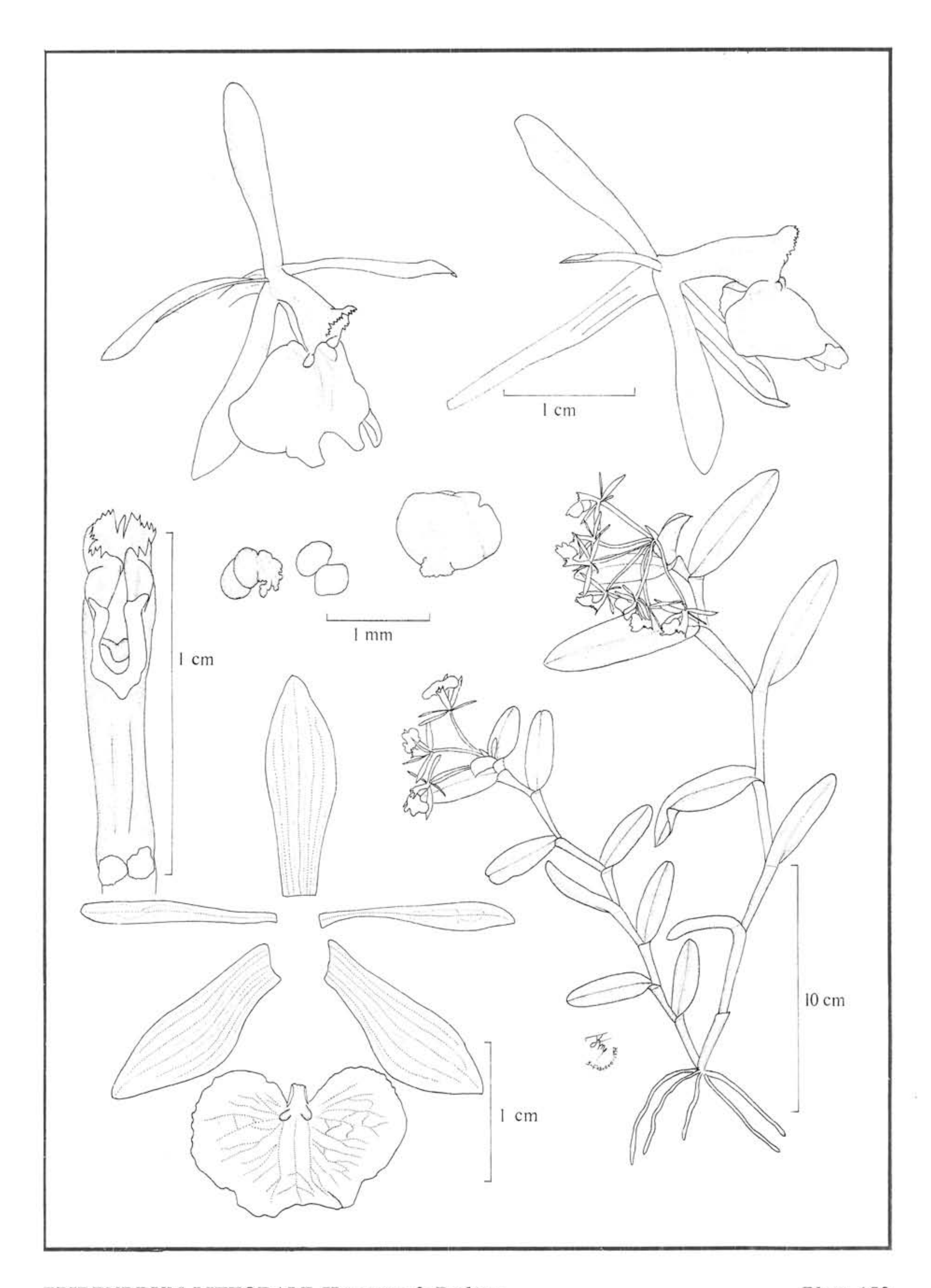
CONSERVATION STATUS: Undetermined.

ETYMOLOGY: The name litense refers to Lita, the main town near the area where the species was collected, on the old railroad between Ibarra and San Lorenzo, Esmeraldas, Ecuador.

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EPIDENDRUM LITTORALE Hágsater & Dodson Plate 153

Text on the reverse side

EPIDENDRUM LITTORALE Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Pichincha: Centinela, km 12 Patricia Pilar to 24 [de] Mayo, at crest of ridge of Montañas Ila, 600 m, 7 Jul. 1985, *C. H. & T. A. Dodson 15869A*, RPSC!

Epidendro chlorocorymbi Schltr. simile, sed plantis minus robustis, labello 3-lobato, lobo mediano amplissimo et prominenti, margine crenato, apice sinu lato vadosoque, columna recta, clinandrio prominenti, eroso-dentato.

Hierba epífita, cespitosa, 15-20 cm de alto incluyendo la inflorescencia. **Raíces** basales, carnosas, 0.5-1 mm de grosor. **Tallo** sencillo, tipo caña, terete, algo flexuoso, 12-16 cm de largo. **Hojas** 7-9, equidistantes a lo largo del tallo; vaina tubular, lisa; lámina coriácea, elíptica, ápice bilobado, margen entero, sin carina dorsal, verde, 3-6.5 x 1-1.8 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, subumbelada, cortamente pedunculada. **Bráctea floral** mucho más corta que el ovario, 1-8 mm de largo. **Flores** 4-6, simultáneas, resupinadas, verdes. **Ovario** inflado ligeramente detrás del perianto, terete, no ornamentado, 28-35 mm de largo. **Sépalos** subcoriáceos, libres, extendidos, ovado-elípticos, agudos, márgenes enteros, revolutos; el dorsal 5-nervado, los laterales algo oblicuos, 6-nervados, con 3 nervaduras secundarias; 12-14 x 5-7 mm. **Pétalos** membranáceos, angostamente oblanceolados, obtusos, márgenes enteros, extendidos, 3-nervados, 11-12 x 1.5-2 mm. **Labelo** unido a la columna, 3-lobado, bicalloso, los callos cortos, redondeados, base cordada, 8-11 x 13-16 mm; lóbulos laterales semiorbiculares, margen crenado; lóbulo medio amplio y prominente, con un seno apical amplio y poco profundo que forma dos lóbulos redondeados, crenados. **Columna** arqueada, 6-7 mm de largo. **Clinandrio** prominente, entero, margen eroso-dentado. **Antera** subesférica, papilosa cerca del ápice, 4-locular. **Polinios** 4, subiguales, semiovoides, lateralmente comprimidos; caudículas suaves y granulosas; viscidio viscoso, translúcido. **Rostelo** subapical, hendido. **Nectario y cápsula** no vistos.

Epiphytic, caespitose **herb**. **Stem** reed-like, terete, somewhat flexuous. **Leaves** 7-9, elliptic, apex bilobed, coriaceous. **Inflorescence** terminal, flowers only once, shortly pedunculate, subumbellate. **Flowers** 4-6, simultaneous, resupinate, green. **Ovary** dilated behind the perianth. **Sepals** subcoriaceous, free, spreading, ovate-elliptic, acute, margin entire, revolute; dorsal 5-veined, laterals oblique, 6-veined with 3 secondary veins. **Petals** narrowly oblanceolate, obtuse, 3-veined. **Lip** united to the column, 3-lobed, bicallose, calli short and rounded, base cordate; lateral lobes semiorbicular, margins crenate; midlobe broad and prominent, with a wide, shallow sinus at the apex, crenate. **Column** arcuate. **Clinandrium** prominent, erose-dentate. **Anther** subspherical, 4-celled, the apex somewhat papillose. **Pollinia** 4, semiovoid, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent.

OTHER SPECIMENS: COLOMBIA: Antioquia: Fonnegra et al. 1874, AMES! SEL! Zarucchi et al. 5039, MO! SEL! **ECUADOR: Pichincha:** Dodson & Embree 18012, AMO! RPSC! 18012A, AMO! MEXU! 18012B, AMO! (illustration voucher, left-hand stem in plant.) 18012C, AMO! (illustration voucher, right-hand stem in plant.) 18012D, AMO! (illustration voucher, flower and floral parts.) 18012E, AMO! Holm-Nielsen et al. 7025, AAU! 25914, AAU! Kvist & Holm-Nielsen 40102, AAU! QCA! Sauleda et al. 3827, AAU! L! U!

DISTRIBUTION AND ECOLOGY: Ecuador and Colombia, along the coastal plain at the base of the Western Andean Ridge. Epiphyte, on trees and fence posts, from 300 to 600 m altitude. Flowering from March to July.

RECOGNITION: This species is a member of the *E. difforme* Jacq. complex, and can be recognized by the terete stems, 3-lobed lip with lateral lobes semiorbicular, crenate, midlobe broad and prominent, crenate, with a wide, shallow apical sinus, straight column, and clinandrium prominent, erose-dentate. *Epidendrum scharfii* Hágsater & Dodson grows in the same general area, but in a different habitat (upstream), and has much smaller plants with ascending leaves, reniform lip with entire margins and emarginate apex.

CONSERVATION STATUS: Probably not threatened. This species seems to be locally widespread and common, though under-represented in herbaria. It seems to grow well in disturbed areas on secondary-growth trees and live fence posts.

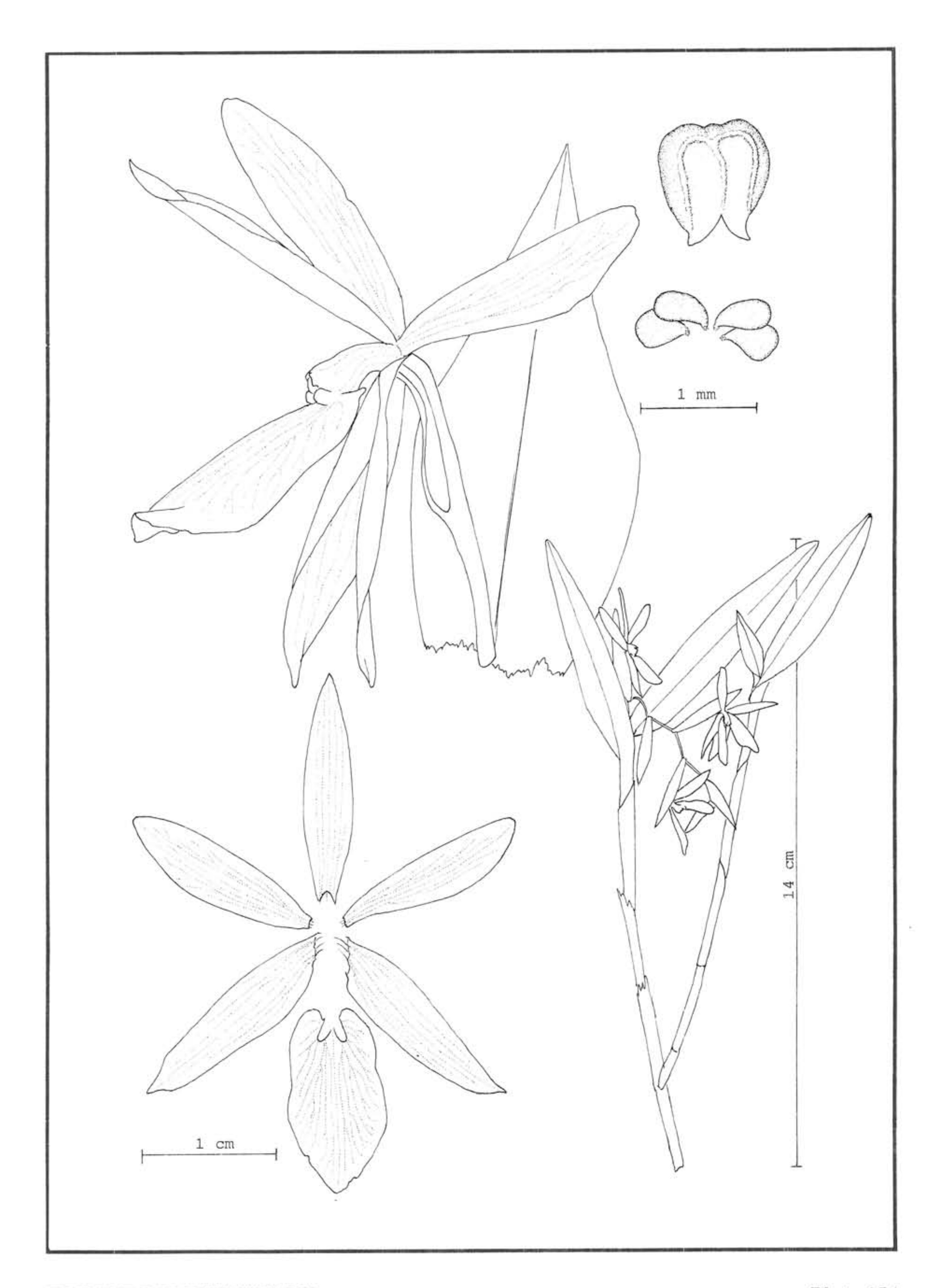


ETYMOLOGY: The epithet refers to the distribution of this species parallel to the littoral along the Pacific coastal plain in Colombia and Ecuador.

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EPIDENDRUM LUTHERI Hágsater

Text on the reverse side

Plate 154

EPIDENDRUM LUTHERI Hágsater, *sp. nov.*

Holotype: PANAMA: Chiriquí-Bocas del Toro: Cerro Colorado, above the Copper Mine, ca. 1600 m, June 1989, *Luther, Besse, Halton & Kress 1059*, SEL! Isotypes: AMES! AMO! (illustration voucher.) MO! US!

Epidendro bugabensi Hágsater simile, sed petalis ellipticis, labello quam latiore multo longiore, infra medium leviter contracto, floribus viridibus.

Hierba litófita, con crecimiento sucesivo lateral, ramificada. **Raíces** solo en la base de la planta. **Tallos** originados de un entrenudo intermedio del tallo anterior, 7-15 cm de largo, cubiertos en la mitad basal por vainas escariosas. **Hojas** 2-4, agrupadas hacia el ápice del tallo; vaina tubular, lateralmente comprimida y dilatada hacia el ápice, estriada al envejecer, 3 x 0.2-0.7 cm; lámina elíptico-lanceolada, diminutamente tridentada a aristada, subcoriácea, conduplicada en la base, 2-10 x 0.6-1.9 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, arqueada, algo en zig-zag, laxa, más corta que las hojas; pedúnculo delgado, envuelto en la base por 2-3 brácteas conduplicadas, imbricadas, de 5-15 mm de largo. **Brácteas florales** ovadas, agudas, conduplicadas, plurinervadas, progresivamente más cortas, 14-25 x 6-10 mm. **Flores** 5-6, simultáneas, resupinadas, verdes. **Ovario** inflado ventralmente en la mitad apical, 10-15 mm de largo. **Sépalo dorsal** elíptico, agudo, márgenes algo revolutos, 5-nervado, 14-15 x 4 mm. **Sépalos laterales** lanceolado-elípticos, algo falcados, agudos, 5-nervados, los nervios laterales en ocasiones divididos cerca de la base, 14-15 x 4.5 mm. **Pétalos** elípticos, algo falcados, redondeados, extendidos, 3-nervados en la base, los nervios laterales divididos arriba, 13-14 x 4-4.5 mm. **Labelo** unido a la columna, entero, ovado, algo contraido en el tercio basal, aparentemente conduplicado en posición natural, bicalloso, base cordada, ápice redondeado, 11-13 x 8 mm. **Columna** corta, decurvada, 4 mm de largo. **Clinandrio** corto, eroso. **Antera** subreniforme, 4-locular, con un borde que rodea la parte frontal, terminada en dos puntas agudas, divergentes. **Polinios** 4, obovoides, lateralmente comprimidos, los interiores algo menores; caudículas aparentemente muy cortas. **Rostelo** no visto. **Nectario** profundo, penetrando la mitad del ovario. **Capsula** no vista.

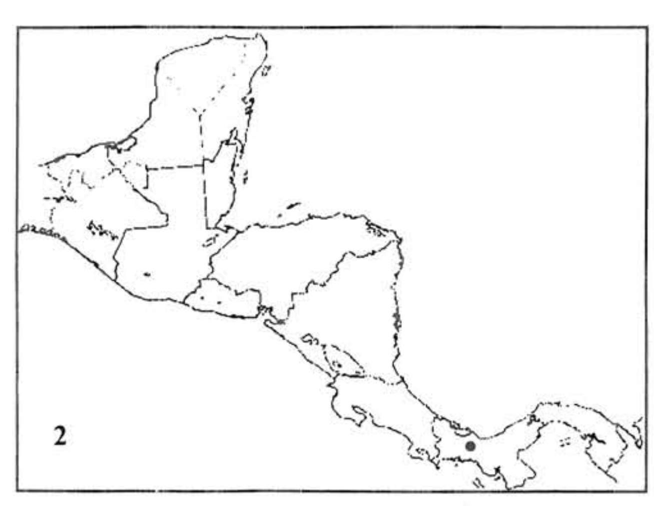
Lithophytic, branching herb with lateral, successive growth. **Stems** arising from an intermediate internode of the previous stem. **Leaves** 2-4, near the apex of the stem; sheaths laterally compressed and dilated towards the apex; blade elliptic-lanceolate, minutely 3-dentate to aristate, subcoriaceous, the base conduplicate. **Inflorescence** terminal, from the mature stem, flowers only once, shorter than the leaves, racemose, arcuate, somewhat zigzag, lax, provided at the base with 2-3 conduplicate, imbricating bracts. **Floral bracts** ovate, acute, conduplicate, many-veined. **Flowers** 5-6, simultaneous, resupinate, green. **Ovary** swollen ventrally above the middle. **Dorsal sepal** elliptic, acute, margins somewhat revolute, 5-veined. **Lateral sepals** lanceolate-elliptic, somewhat falcate, acute, 5-veined, the lateral veins divided near the base. **Petals** spreading, elliptic, slightly falcate, rounded, 3-veined at the base, the lateral veins branching above. **Lip** united to the column, entire, ovate, slightly constricted below the middle, apparently conduplicate in natural position, bicallose, base cordate, apex rounded. **Column** short, decurved. **Clinandrium** short, erose. **Anther** subreniform, ending in two divaricate points, with a rim surrounding the front, 4-celled. **Pollinia** 4, obovoid, laterally compressed, the inner pollinia slightly smaller; caudicles apparently very short. **Nectary** deep, penetrating half the ovary.

DISTRIBUTION AND ECOLOGY: Known only from the type. Found in cloud forest at about 1600 m a.titude. Flowering in June.

RECOGNITION: Epidendrum lutheri belongs to the E. polychlamys Schltr. group and can be identified by the lax inflorescence, the 5-veined, 14-15 long and 4 mm wide sepals, the elliptic petals, and the lip almost twice as long as wide. It is closely related to E. bugabense Hágsater, which has red flowers and the lip about as wide as long.

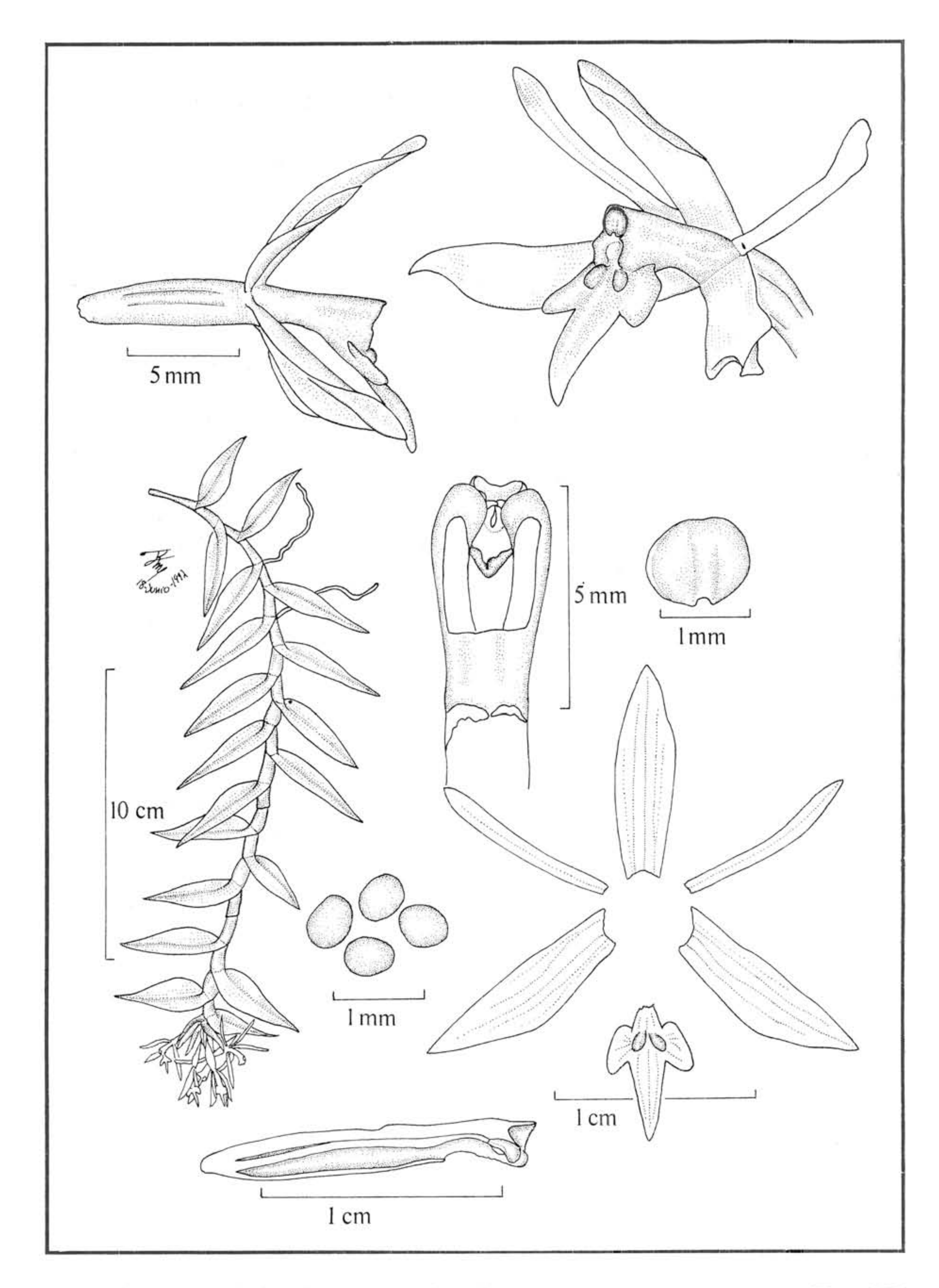
CONSERVATION STATUS: Unknown.

ETYMOLOGY: The species is named in honor of Dr. Harry Luther, bromeliad specialist at the Marie Selby Botanical Gardens in Sarasota, Florida, who collected the type.



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EPIDENDRUM MACASENSE Hágsater & Dodson

Plate 155

Text on the reverse side

EPIDENDRUM MACASENSE Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Morona-Santiago: Along new road from Macas to Guamote, 800-1800 m, 5 February 1987, *A. Hirtz 3155, J. Luer & C. Luer*, RPSC! (illustration voucher). Isotype: (flowers in liquid) AMO!

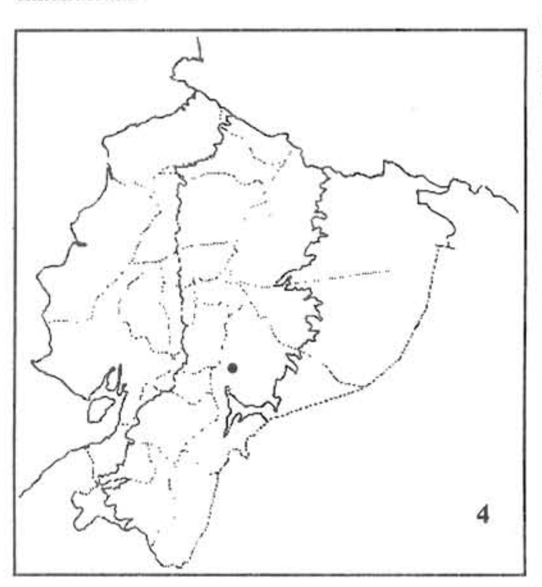
Epidendro lueri Dodson & Hágsater simile, sed caule longiore, foliis lanceolatis, attenuatis, clinandrio integro, anthera inornata, et nectario non prominenti differt.

Hierba epífita, colgante. **Raíces** filiformes, a lo largo de la parte basal de la planta, ca. 0.5 mm de grosor. **Tallos** lateralmente comprimidos, ca. 20 cm de largo y 2.5-5 mm de ancho. **Hojas** distribuidas a lo largo de todo el tallo, equidistantes; vainas ancipitosas, estriadas (en seco), 9-11 mm de largo; láminas angostamentes lanceoladas, atenuadas, suculentas, dispuestas todas en un mismo plano y casi perpendiculares al tallo, 2.4-3.5 x 0.6-1 cm. **Inflorescencia** terminal en el tallo maduro, colgante, subumbelada, ca. 2.5 cm de largo, florece una sola vez, provista de una bráctea intermedia entre la hoja apical y las brácteas florales, 16 mm de largo. Inflorescencia terminal, colgante, subumbelada, con una bráctea intermedia entre la hoja superior y la bráctea floral inferior. **Brácteas florales** angostamente ovadas, acuminadas, dorsalmente carinadas, progresivamente más pequeñas, 6-12 x 3-5 mm. **Flores** 5-6, simultáneas, abriendo progresivamente, resupinadas, color "blanco". **Ovario** con una vesícula ventral alargada, algo inflada, 9-12 mm de largo. **Sépalos** extendidos, elípticos, agudos, los laterales oblicuos, 3-nervados, los nervios laterales bifurcados desde la base, 10-11 x 3 mm. **Pétalos** extendidos, lineares, agudos, 1-nervados, 9-11 x 1 mm. **Labelo** unido a la columna, carnoso, trilobado, bicalloso, los callos elipsoides, divergentes, 5.5 x 4 mm; lóbulos laterales semiovados; lóbulo medio triangular, agudo. **Columna** recta, 5-5.5 mm de largo. **Clinandrio** muy ligeramente prominente, margen entero. **Antera** 4-locular, subesférica, con una quilla roma al frente, no ornamentada. **Polinios** 4, lateralmente comprimidos, suborbiculares, subiguales. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** aparentemente obsoletos. **Nectario** profundo, penetrando 3/4 del ovario y correspondiendo a la vesícula ventral alargada, no prominente. **Cápsula** no vista.

Epiphytic, pendent herb. **Roots** arising from the basal portion of the stem. **Stem** laterally compressed. **Leaves** distichous, evenly distributed along the stems, all disposed in the same plane and perpendicular to the stem; sheath ancipitous; blade lanceolate, attenuate, succulent. **Inflorescence** terminal, hanging, subumbellate, with a bract intermediate between the uppermost leaf and the lowermost floral bract. **Floral bracts** narrowly ovate, acuminate, dorsally carinate, progressively smaller. **Flowers** 5-6, simultaneous, opening progressively, resupinate, "white". **Ovary** with a ventral, elongated vesicle. **Sepals** spreading, elliptic, acute, the laterals oblique, 3-veined, with the lateral veins bifurcate from the base. **Petals** spreading, acute, linear, 1-veined. **Lip** united to the column, fleshy, 3-lobed, bicallose, calli ellipsoid and somewhat diverging; lateral lobes semiovate; midlobe triangular, acute. **Column** straight. **Clinandrium** slightly prominent, margin entire. **Anther** subspherical, 4-celled, with a low, rounded keel in front, unornamented. **Pollinia** 4, laterally compressed, suborbicular. **Nectary** very deep, penetrating 3/4 of the ovary and corresponding with the ventral, elongated, non prominent vesicle.

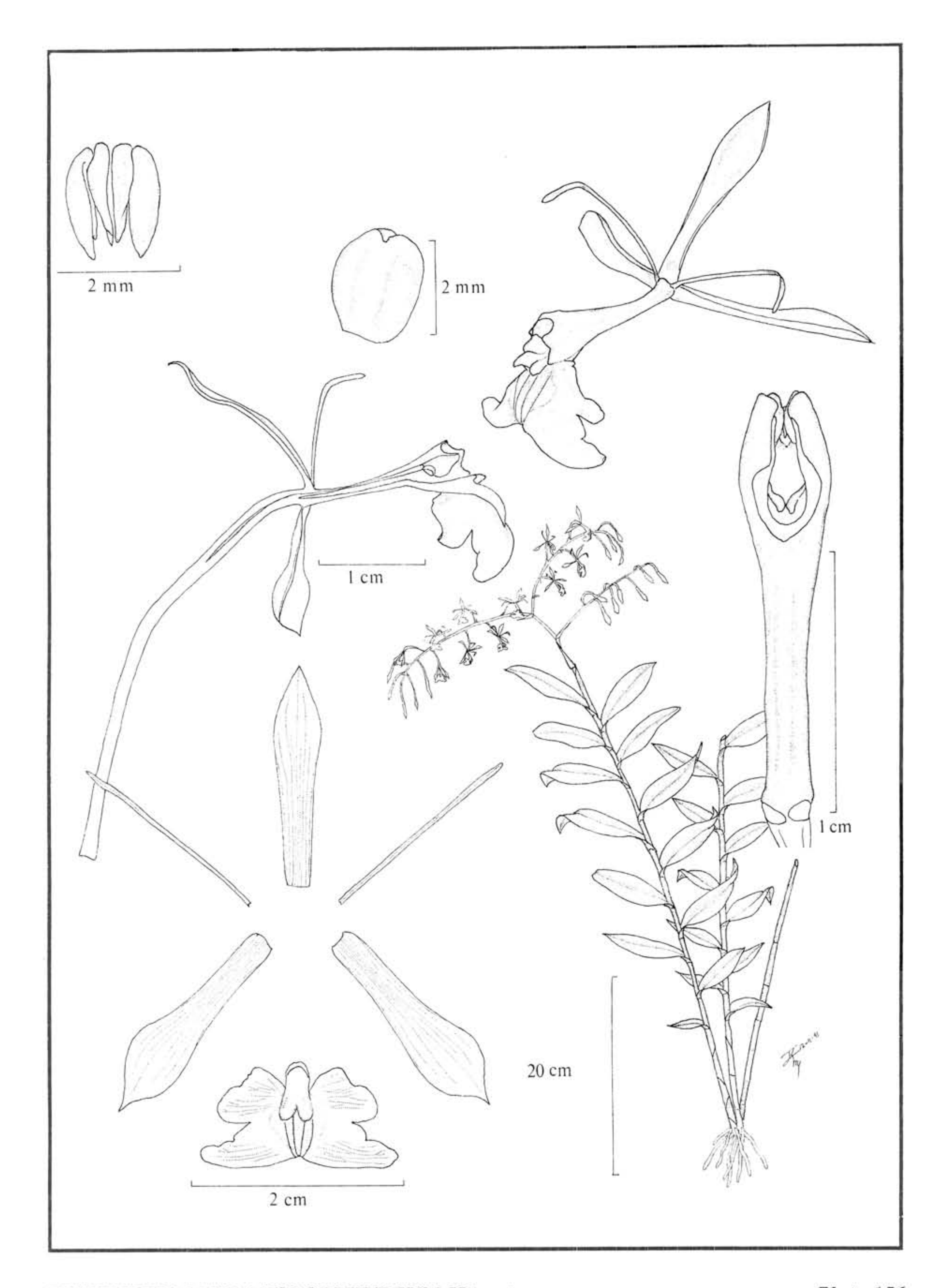
DISTRIBUTION AND ECOLOGY: Known only from the eastern slope of the Eastern Cordillera of the Andes in Ecuador. Epiphyte, found between 800 and 1800 m altitude. Flowering in February.

RECOGNITION: Epidendrum macasense is similar to E. lueri Dodson & Hágsater, but can be distinguished by the longer (ca. 20 cm long) stems, the narrower, attenuate leaves, the non-prominent nectary, the slightly prominent, entire clinandrium and the unornamented anther. Epidendrum lueri has stems up to 11 cm long, leaves ovate, acute, nectary prominent as a rounded vesicle near the base of the ovary, very prominent, erose clinandrium and anther with a conspicuous, lacerate beak. Both species belong to the E. nanum C. Schweinf. group together with E. nanopsis Dodson & Hágsater, which has smaller flowers (sepals 3.5-4 mm long), shallowly 3-lobed lip, purple anther and dentate clinandrium.



CONSERVATION STATUS: Unknown.

ETYMOLOGY: The epithet is in reference to the town of Macas, the capital of the province of Morona-Santiago.



EPIDENDRUM MELANOPORPHYREUM Hágsater

Plate 156

Text on the reverse side

EPIDENDRUM MELANOPORPHYREUM Hágsater, *sp. nov.*

Holotype: PERU: Huánuco: outside Tingo María, road to Pulcalpa, Cordillera Azul, 9°20'S 76°0'W, 1700 m, in scrub forest, collected October 1987, prepared from a plant cultivated at J & L Orchids, 12 November 1991, *C. Head [788-297] sub Hágsater 11120*, MO! (illustration voucher.) Clonotype: *C. Head 788-297*, 2 August 1988 (flower in FAA), AMO!

Epidendro paniculato Ruiz & Pav. simile, sed differt floribus majoribus, atropurpureis, fere nigris, columnae basi viridi, columnae apice et labeli disco violaceis.

Hierba terrestre, cespitosa, 30-70 cm de alto. Raíces basales, carnosas, ca. 2.5 mm de grosor. Tallos sencillos, tipo caña, teretes, rectos, 30-60 cm de largo, 4-9 mm de grosor. **Hojas 7-14, distribuidas en los dos tercios superiores del tallo;** vaina tubular, lisa, hasta 5 cm de largo; lámina elíptica, aguda, margen entero, lisa, verde oliváceo, envés amoratado, 6-12 x 2.2-4.4 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, paniculada, suberecta, 15-25 cm de largo, sin espata; pedúnculo generalmente con dos brácteas basales, agudas, conduplicadas, hasta 5 cm de largo. **Bráctea floral** de mucho más corta a la mitad del largo del ovario, triangular, acuminada, 2-19 mm de largo. **Flores** ca. 25, más o menos simultáneas, resupinadas, aparentemente sin fragancia; sépalos, pétalos y labelo morado oscuro, casi negro, mitad basal de la columna verde, mitad apical de la columna y disco del labelo violeta. **Ovario** no inflado, terete, no ornamentado, 24-40 mm de largo. **Sépalos** algo reflexos, libres, sin quilla dorsal, no ornamentados, carnosos, angostamente espatulado-oblanceolados, agudos, márgenes extendidos, 5-nervados, con 4 nervios secundarios, 20-21.5 x 4-5 mm. **Pétalos** extendidos, el tercio apical inflexo, angostamente lanceolados a filiformes, obtusos, márgenes extendidos, membranáceos, uninervados, 20 x 0.5 mm. **Labelo** unido a la columna, convexo, rígido, subcoriáceo, subcordado en la base, 4-lobado, bicalloso, con 3 carinas centrales prominentes, romas, la central llegando hasta el seno apical, 9-10 mm de largo, 15 mm de ancho entre los lóbulos basales, 19 mm de ancho entre los apicales; lóbulos basales subtriangulares, redondeados, márgenes irregulares; lóbulos apicales triangulares, redondeados, fuertemente divaricados. **Columna** recta, delgada, 16 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** subesférica, 4-locular. **Polinios** 4, tipo "ala de pájaro", fuertemente comprimidos lateralmente, transparentes, los interiores algo más pequeños; caudículas suaves y lisas, ligeramente más cortas que los polinios; viscidio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños, de alrededor de 1/4 del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando hasta la base del perianto, liso interiormente. **Cápsula** no vista.

Terrestrial, caespitose **herb. Roots** basal, fleshy. **Stems** simple, straight, reed-like, terete. **Leaves** several, elliptic, acute, olive-green, underside purple. **Inflorescence** terminal, from the mature stem, flowering only once, paniculate, suberect, with 2 large, conduplicate bracts enclosing the peduncle. **Floral bracts** from much shorter to about half as long as the ovary. **Flowers** more or less simultaneous, resupinate, scentless, deep purple, nearly black, base of the column green, apex of the column and disc of the lip violet. **Ovary** thin, unornamented, not inflated. **Sepals** somewhat reflexed, free, fleshy, spatulate-oblanceolate, acute, 5-veined. **Petals** spreading, membranaceous, filiform, 1-veined. **Lip** united to the column, 4-lobed, convex, fleshy, rigid, bicallose, 3-carinate; basal lobes subtriangular, rounded, apical lobes divaricate, triangular, rounded. **Column** straight, slender. **Clinandrium** obsolete. **Anther** subspherical, 4-celled. **Pollinia** 4, "bird-wing" type, strongly compressed laterally, transparent, the inner pair slightly smaller; caudicles soft and smooth; viscidium semiliquid. **Rostellum** subapical, slit. **Lateral stigma lobes** small. **Nectary** very shallow, not penetrating beyond the perianth, smooth within.

OTHER SPECIMENS: PERU: Cuzco: Collantes 1, AMO! Herb. MOL. Pasco: Bennett 5118, USM.

DISTRIBUTION AND ECOLOGY: Terrestrial and probably lithophytic and epiphytic, in scrub forest at 1700 m altitude. Flowering from August to November.



RECOGNITION: Epidendrum melanoporphyreum looks vegetatively like most members of the E. paniculatum Ruiz & Pav. group, but can be easily distinguished by the very dark purple, nearly black, flowers except for the green base of the column and the violet apex of the column and disc of the lip. The flowers are relatively large for the group, the sepals being 20 mm long, and the lip has the apical lobes widely divaricate, being wider across them than across the basal lobes. Other than clearly being a member of the E. paniculatum group, it does not seem to be especially closely related to any particular species.

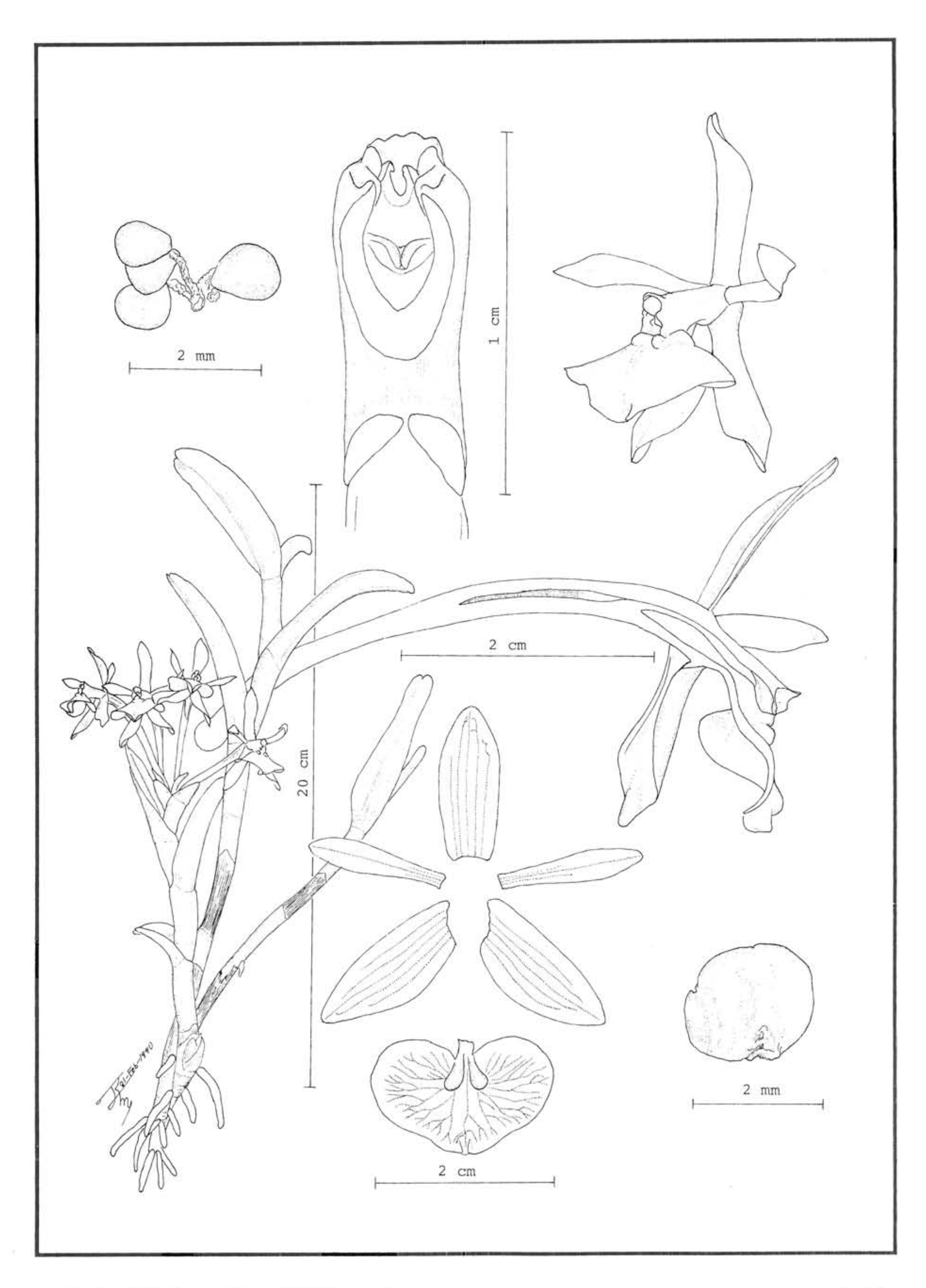
CONSERVATION STATUS: Unknown. The plants could be confused with any of the several species of the E. paniculatum group, and the very dark flowers are hardly visible in the wild except for the bright apex of the column and disc of the lip, so that collectors may well have overlooked it. The plant from which the type has been prepared was divided, but attemps to self-pollinate it for in vitro propagation from seed have been unsuccessful.

ETYMOLOGY: From the Greek melanos, black, and porphyros, purple, in reference to the very dark color of the flowers, nearly blackish-purple, unique to this species.

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EPIDENDRUM MITTELSTAEDTII Hágsater

Text on the reverse side

Plate 157

EPIDENDRUM MITTELSTAEDTII Hágsater, *sp. nov.*

Holotype: GUATEMALA: Alta Verapaz: Cobán, prensado 8 marzo 1990, *Hágsater 9554*, AMO! (illustration voucher.) Clonotype: 27 diciembre 1990, AMO!

Epidendro succulento Hágsater simile, sed differt caulibus lateraliter compressis, foliis valde ascendentibus, floribus 4-5, resupinatis, simultaneis, et clinandrio non prominenti, margine crenato.

Hierba epífita, cespitosa, 13-19 cm de alto incluyendo la inflorescencia. **Raíces** basales, carnosas, 2-2.5 mm de grosor. **Tallo** sencillo, tipo caña, algo comprimido lateralmente, recto, 8-13.5 cm de largo. **Hojas** 4-5, equidistantes a lo largo del tallo; vaina lateralmente comprimida, lisa, 2-2.5 cm de largo; lámina coriácea, elíptica a ovada, ápice asimétricamente bilobado, margen entero, coriácea, verde, marcadamente ascendente, 4.3-7.5 x 1.3-2.2 cm. **Inflorescencia** terminal en el tallo maduro, subumbelada, florece una sola vez, cortamente pedunculada. **Bráctea floral** mucho más corta que el ovario, lisa, 1.7-2 mm de largo. **Flores** 4-5, resupinadas, simultáneas, verde brillante. **Ovario** no inflado, no ornamentado, terete, 25-40 mm de largo. **Sépalos** subcoriáceos, glabros, extendidos, libres. **Sépalo dorsal** elíptico, redondeado, margen entero, ligeramente revoluto, 5-nervado, 15.7-17.3 x 5.5-6.2 mm. **Sépalos laterales** oblicuamente elípticos, agudos, márgenes enteros, revolutos, 5-nervados, 15.5-19 x 7-7.5 mm. **Pétalos** oblanceolados, redondeados, márgenes enteros, extendidos, 3-nervados, 15.3-16 x 3-3.3 mm. **Labelo** unido a la columna, entero, ampliamente cordiforme, bicalloso, subcoriáceo, ápice entero, base y ápice recurvados, 10-13 x 15-20 mm. **Columna** recta, 10-13 mm de largo. **Clinandrio** no prominente, entero, margen crenado. **Antera** subesférica, 4-locular, con una pequeña prominencia al frente. **Polinios** 4, subiguales, obovoides, lateralmente comprimidos; caudículas suaves y granulosas, semejantes en longitud a los polinios; viscidio viscoso, translúcido. **Rostelo** subapical, hendido. **Nectario** corto, penetrando 1/4 del ovario, no ornamentado. **Cápsula** no vista.

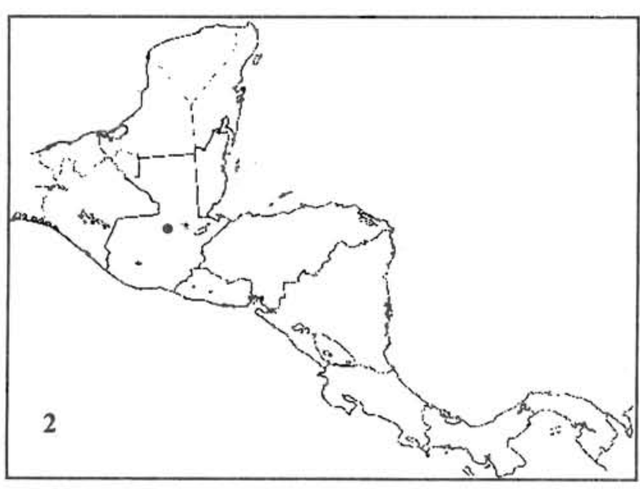
Epiphytic, caespitose herb. **Stems** reed-like, somewhat lateraly compressed. **Leaves** coriaceous, elliptic to ovate, apex unequally bilobed, markedly ascending. **Inflorescence** terminal, flowers only once, subumbellate. **Flowers** 4-5, resupinate, simultaneous, bright green. **Sepals** subcoriaceous, glabrous, free, spreading. **Dorsal sepal** elliptic, rounded, margins entire, slightly revolute. **Lateral sepals** obliquely elliptic, acute, margins entire, revolute. **Petals** oblanceolate, rounded, margins entire, spreading. **Lip** united to the column, entire, broadly cordiform, bicallose, subcoriaceous, apex entire, base and apex recurved. **Column** straight. **Clinandrium** not prominent, entire, margin crenate. **Anther** subspherical, 4-celled. **Pollinia** 4; caudicles soft and granulose; viscidium viscous, translucent. **Rostellum** subapical, slit. **Nectary** penetrating 1/4 of the ovary.

DISTRIBUTION AND ECOLOGY: Known only from Guatemala. Epiphyte at ca. 1300 m altitude. Flowering apparently throughout the year.

RECOGNITION: Epidendrum mittelstaedtii is a member of the E. difforme Jacq. complex, and can be recognized by the somewhat laterally compressed stems, markedly ascending leaves, 4-5 simultaneous, bright green flowers, broadly cordiform lip and clinandrium not prominent with margin crenate. The species most similar is Epidendrum succulentum Hágsater, which has bigger plants, leaves not ascending, 5-10 fragrant, green to yellowish-green flowers and prominent, fimbriate clinandrium. Epidendrum erectifolium Hágsater & L. Sánchez is also similar, but is distinguished by the slightly flexuous, terete stems, 4-17 flowers, 3-lobed lip with the midlobe bilobed, and clinandrium prominent, erose.

CONSERVATION STATUS: Undetermined.

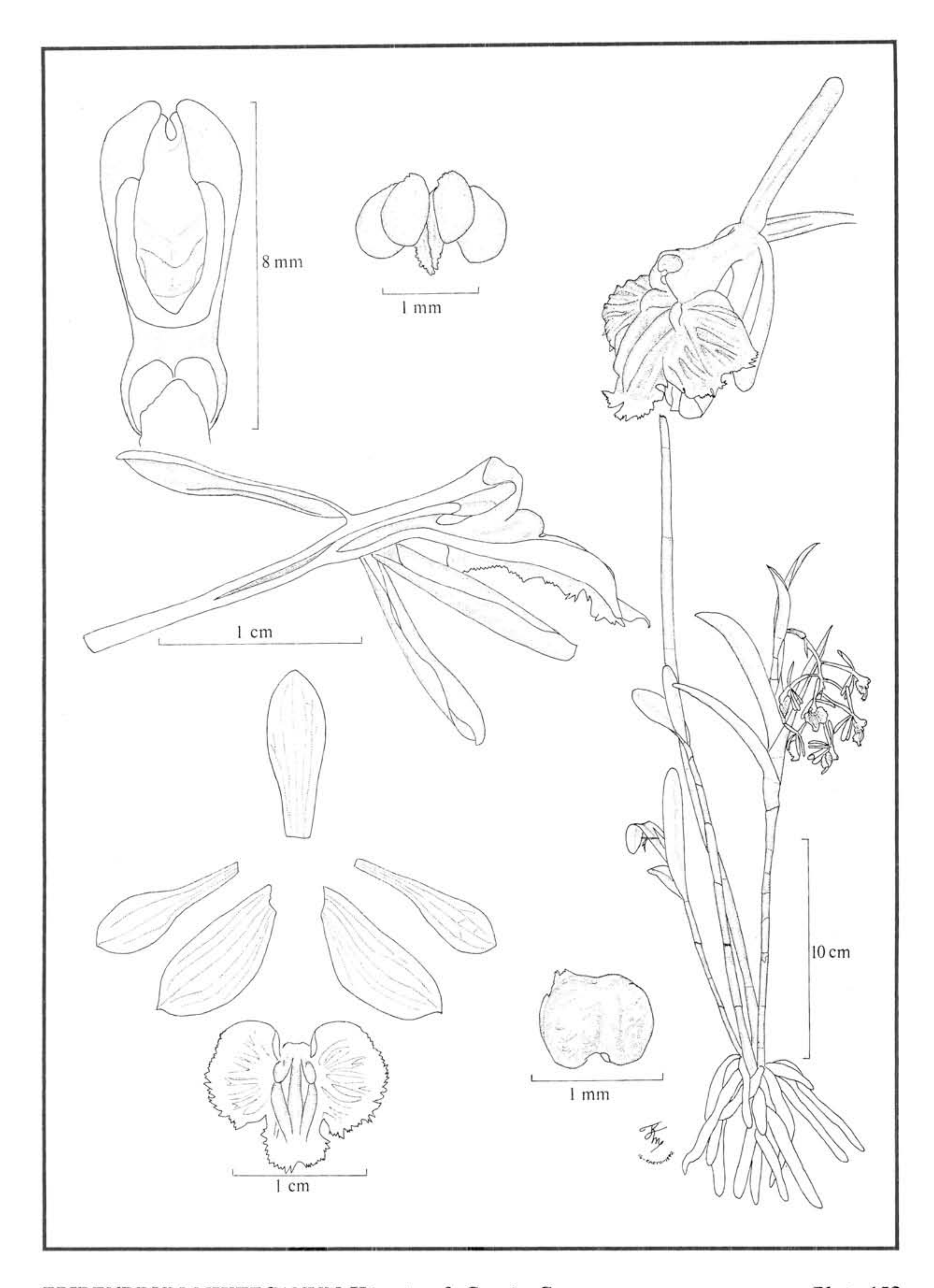
ETYMOLOGY: This species is dedicated to Otto Mittelstaedt, orchid cultivator in Cobán, Guatemala.



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EPIDENDRUM MIXTECANUM Hágsater & García-Cruz

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EPIDENDRUM MIXTECANUM Hágsater *et* García-Cruz, *sp. nov.*

Holotype: MEXICO: Oaxaca: Agua Fría, Copala, 2000 m, colecta 2 diciembre 1978, prensado 5 abril 1986, *J. Pastrana sub E. Hágsater 5746*, AMO! (illustration voucher.) Clonotype: 7 abril 1983, MEXU!

Epidendro oaxacano Rolfe ex Ames simile, sed columna viridi, labello trilobato, carnoso, emarginato, margine eroso-dentato, tribus carinis prominentissimis, lobis lateralibus 6-8 venis principalibus incrassatis prominentissimis.

Hierba epífita, cespitosa, 22-85 cm de alto. **Raíces** basales, carnosas, gruesas, 3-6 mm de grosor. **Tallos** sencillos, tipo caña, teretes, ligeramente comprimidos lateralmente en el tercio apical, rectos, 15-71 cm de largo, 2-5.5 mm de grosor. **Hojas** 2-12, distribuidas en el tercio apical del tallo; vaina tubular, lisa, estriada al secar, papirácea, 8-48.3 mm de largo; lámina angostamente elíptico-lanceolada, obtusa o redondeada, coriácea, lisa, verde oscuro, margen entero, 5-13.9 x 1.1-2.7 cm. **Inflorescencia** terminal en el tallo maduro, florece varios años produciendo nuevos racimos de los nudos del mismo pedúnculo, densa, arqueada, 4-12 cm de largo; raquis terete, recto, liso; pedúnculo sin espata, con 2-5 brácteas basales, imbricadas, oblongo-triangulares, tubulares, papiráceas a escariosas, más grandes que las brácteas florales, 8-33 mm de largo. **Bráctea floral** mucho más corta que el ovario, libre, triangular, atenuada, 1.8-6.5 x 1-1.5 mm. **Flores** 10-25, simultáneas, resupinadas, sin fragancia apreciable durante el día, carnosas, color verdoso a rojo-morado, columna y antera completamente verdes. **Ovario** terete, liso, 8.7-21.5 mm de largo, 1-1.5 mm de grosor. **Sépalo dorsal** reflexo desde la base, oblanceolado, obtuso, ligeramente mucronado, margen revoluto, sin quilla dorsal, 5-nervado, 8.3-13 x 3.7-4.8 mm. **Sépalos laterales** descendentes, ocultos completamente por el labelo en vista frontal, cortamente adnados con la columna en la base, oblicuamente elípticos, agudos, mucronados, margen revoluto, entero, sin quilla dorsal, 6-nervados, 8.6-13.7 x 4-5.8 mm. **Pétalos** deflexos, espatulados, obtuso-redondeados, margen revoluto, entero, 3-nervados, 9.3-13.4 x 2-4.7 mm. **Labelo** unido a la columna, trilobado, bicalloso, callos laminares, disco con tres carinas centrales muy prominentes, 7.8-11.5 x 10.8-14.9 mm; lóbulos laterales reniformes, margen irregularmente dentado, con 6-8 venas principales engrosadas y prominentes, 3.9-6.5 x 5.9-9 mm; lóbulo medio prominente, subcuadrado, someramente emarginado, margen irregularmente dentado, 2.4-4.7 x 3.1-6.4 mm. **Columna** recta, obcónica, gruesa, 6.9-9.6 mm de largo, 3.5-5.1 mm de grosor. **Clinandrio** no prominente, entero. **Antera** reniforme, diminutamente papilosa, con una quilla roma al frente, 4-locular, 0.5 x 0.6 mm. **Polinios** 4, lateralmente comprimidos, subiguales, obovoides; caudículas granulosas, ligeramente más largas que los polinios; viscidio viscoso, transparente. **Rostelo** subapical, hendido, elíptico. **Lóbulos laterales del estigma** prominentes, de alrededor de la mitad del largo de la cavidad estigmática. **Nectario** profundo, penetrando ligeramente más allá de la base del perianto, no ornamentado. **Cápsula** no vista.

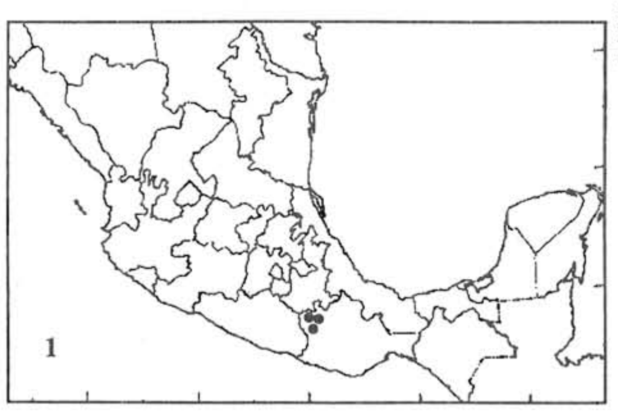
Epiphytic, caespitose herb. **Stem** simple, reed-like, with 2-12 narrowly elliptic-lanceolate **leaves** near the apex. **Inflorescence** terminal, flowers for several years, short, arcuate, with one to several racemes. **Flowers** 10-25, resupinate, odorless, purplish-red, column green. **Dorsal sepal** oblanceolate, obtuse, margins revolute. **Lateral sepals** obliquely elliptic, acute, margin revolute. **Petals** spatulate, rounded, margins revolute. **Lip** united to the column, 3-lobed, fleshy; disc with 3 longitudinal keels and two basal, laminar, divergent calli; lateral lobes reniform, margins dentate, with 6-8 prominent veins; midlobe projecting beyond the lateral lobes, subquadrate, shallowly emarginate, dentate. **Column** straight, thick. **Clinandrium** entire. **Anther** reniform, minutely papillose, 4-celled. **Pollinia** 4, laterally compressed, with granulose caudicles; viscidium semiliquid. **Rostellum** slit. **Nectary** shallow, not penetrating beyond the perianth.

OTHER SPECIMENS: MEXICO: Oaxaca: Pastrana sub Hágsater 5753, AMES! AMO! ENCB! MO! NY! SEL! 6025, AMO! 6027, AMO! 6029, AMO! 6030, AMO! F! K! P! Pastrana sub Hágsater s.n., AMO! Greenwood sub Hágsater 4304, AMO! FCME! MEXU! MICH! UAMIZ!

DISTRIBUTION AND ECOLOGY: Endemic to Mexico, known only from the Mixteca Region in the Sierra Madre del Sur, Oaxaca. Epiphyte, usually on oaks in oak forest, from 1200 to 2000 m altitude. Flowering mainly from November to March.

RECOGNITION: This species is similar to E. oaxacanum Rolfe ex Ames, which differs in the lateral lobes of the lip with margins entire and the yellowish-green flowers. It is also very similar to E. hueycantenangense Hágsater & García-Cruz, which has the lip obscurely lobed.

CONSERVATION STATUS: Undetermined.

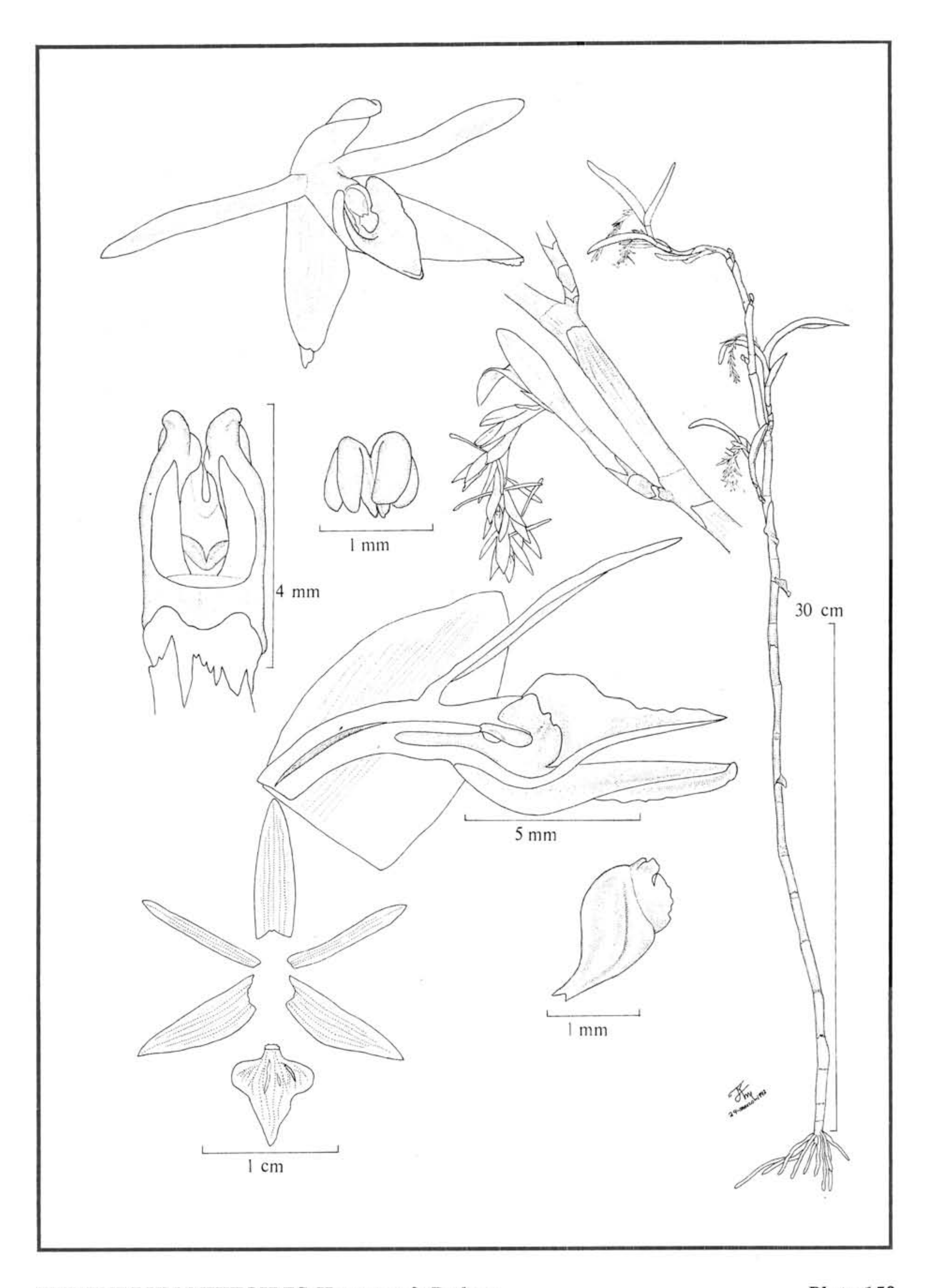


ETYMOLOGY: The epithet mixtecanum refers to the Mixteca Region of Oaxaca, to which this species is endemic.

Authors: E. Hágsater & J. García-Cruz Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM MIXTOIDES Hágsater & Dodson

Text on the reverse side

Plate 159

EPIDENDRUM MIXTOIDES Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Esmeraldas: km 38.4 camino Lita a San Lorenzo, 250 m, 11 julio 1990, *E. Hágsater 10630, C. H. Dodson [18516], D. Rubio & N. Revelo*, QCNE!

Epidendro mixto Schltr. simile, sed labello ecalloso, triangulari-hastato, prominentiis lateralibus rotundatis differt.

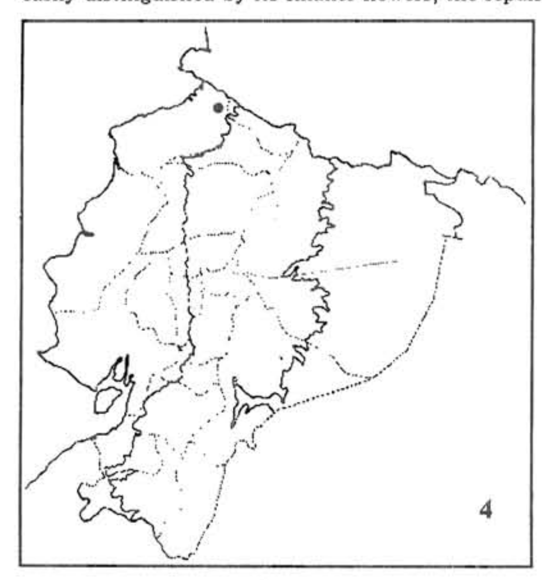
Hierba epífita, erecta, ramificada, 60-90 cm de alto. **Raíces** producidas de la base del tallo principal, carnosas, 1-2.5 mm de grosor. **Tallos** ramificados, tipo caña, más o menos flexuosos, teretes, el principal hasta 90 cm de alto, 5.5 mm de grosor; las ramas más cortas, 3-8 cm de largo, 2.5-3.5 mm de grosor. **Hojas** numerosas, distribuidas a todo lo largo del tallo principal, ausentes o escasas en plantas maduras; en las ramas 2-3, agrupadas hacia el ápice; vaina tubular, lisa (estriada al envejecer), hasta 3.5 cm de largo; lámina angostamente elíptico-ligulada, coriácea, ápice desigualmente bilobado, verde oscuro; las del tallo principal más grandes, ca. 10 x 1.1 cm, las de las ramas 3-7.5 x 0.6-1.1 cm. **Inflorescencia** terminal en el tallo principal y las ramas, racemosa, nutante, florece una sola vez o dos si es del tallo principal, 3-5 cm de largo, sin espata, con una bráctea basal semejante a las brácteas florales; raquis en zig-zag. **Bráctea floral** conduplicada, prominente, mucho más larga que el ovario, ovada, obtusa al extenderse, dorsalmente carinada, 7-12 mm de largo. **Flores** 5-8, simultáneas, alternas, con fragancia ligera diurna, color blanco-verdoso. **Ovario** terete, 4-5 mm de largo. **Sépalos** entreabiertos, ca. 9-nervados, el dorsal angostamente ovado, agudo, 8-9.5 x 2.7 mm, los **laterales** lanceolados, algo falcados, con una quilla dorsal apical erosa, 9.5 x 2.5 mm. **Pétalos** extendidos o algo reflexos, lineares, agudos, trinervados, 9 x 1.1 mm. **Labelo** unido a la columna y envolviéndola en posición natural, subcoriáceo, entero, ecalloso, triangular-hastado, las prominencias laterales redondeadas, el ápice agudo, 6.5 x 5.1 mm. **Columna** recta, gruesa, ca. 3 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** cónica, prolongándose en una prominencia petaloide terminada en dos puntas, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, algo más largas que los polinios; viscidio semilíquido, transparente. **Rostelo** hendido. **Lóbulos laterales del estigma** pequeños. **Nectario** poco profundo, penetrando ca. 1/4 del ovario. **Cápsula** no vista.

Epiphytic, erect, branching **herb. Roots** from the base of the plant only, fleshy. **Main stem** somewhat flexuous, with narrowly elliptic-ligulate leaves larger than those of the branches. **Inflorescence** terminal, from the main and the branches, flowers only once or twice if produced in the main stem, racemose, arcuate, **zigzag**, with 5-8 alternate flowers. **Flowers** greenish-white, slightly fragrant. **Sepals** partly open, ovate-lanceolate, acute, ca. 9-veined. **Petals** linear, acute, 3-veined. **Lip** united to the column and partially enclosing it in natural position, entire, triangular-hastate, ecallose, the lateral prominences rounded, apex acute. **Column** stout. **Clinandrium** obsolete. **Anther** conical, produced into a two-pronged apical process. **Pollinia** 4; caudicles soft and granulose; viscidium semiliquid. **Rostellum** slit. **Nectary** penetrating about 1/4 of the ovary.

OTHER SPECIMENS: ECUADOR: Esmeraldas: Hágsater et al. 10649, AMO! (illustration voucher.)

DISTRIBUTION AND ECOLOGY: Known only from the type locality. Epiphyte in very wet, tall rain forest at 250 m altitude. Flowering in the wild in June and July (and in January and February in cultivation in Mexico City).

RECOGNITION: Epidendrum mixtoides belongs to the E. ramosum Jacq. complex, resembling the closely related E. mixtum Schltr. Both species have erect, branching stems with a raceme of whitish flowers produced from the apex of secondary, short stems or branchlets, zigzag rachis, floral bracts much longer than the ovary, and sepals and petals over 9 mm long. However, E. mixtoides differs from E. mixtum in having a triangular-hastate, ecallose lip with the lateral prominences rounded, instead of triangular-cordate with a truncate callus. Pressed specimens of both species are difficult to distinguish unless the lip is flattened, but their geographical areas are widely separated and while E. mixtum is a high-altitude species, often found in mixed pine-oak forests, E. mixtoides is found at very low altitude in a very wet, tall rain forest. E. ramosum, which has been found at slightly higher elevation in the same general area as E. mixtoides, can be easily distinguished by its smaller flowers, the sepals being 5-6 mm long.



CONSERVATION STATUS: Undetermined. The habitat around the type locality is in theory protected by a nearby Indian reserve. There is no collecting pressure and the species is of no horticultural interest.

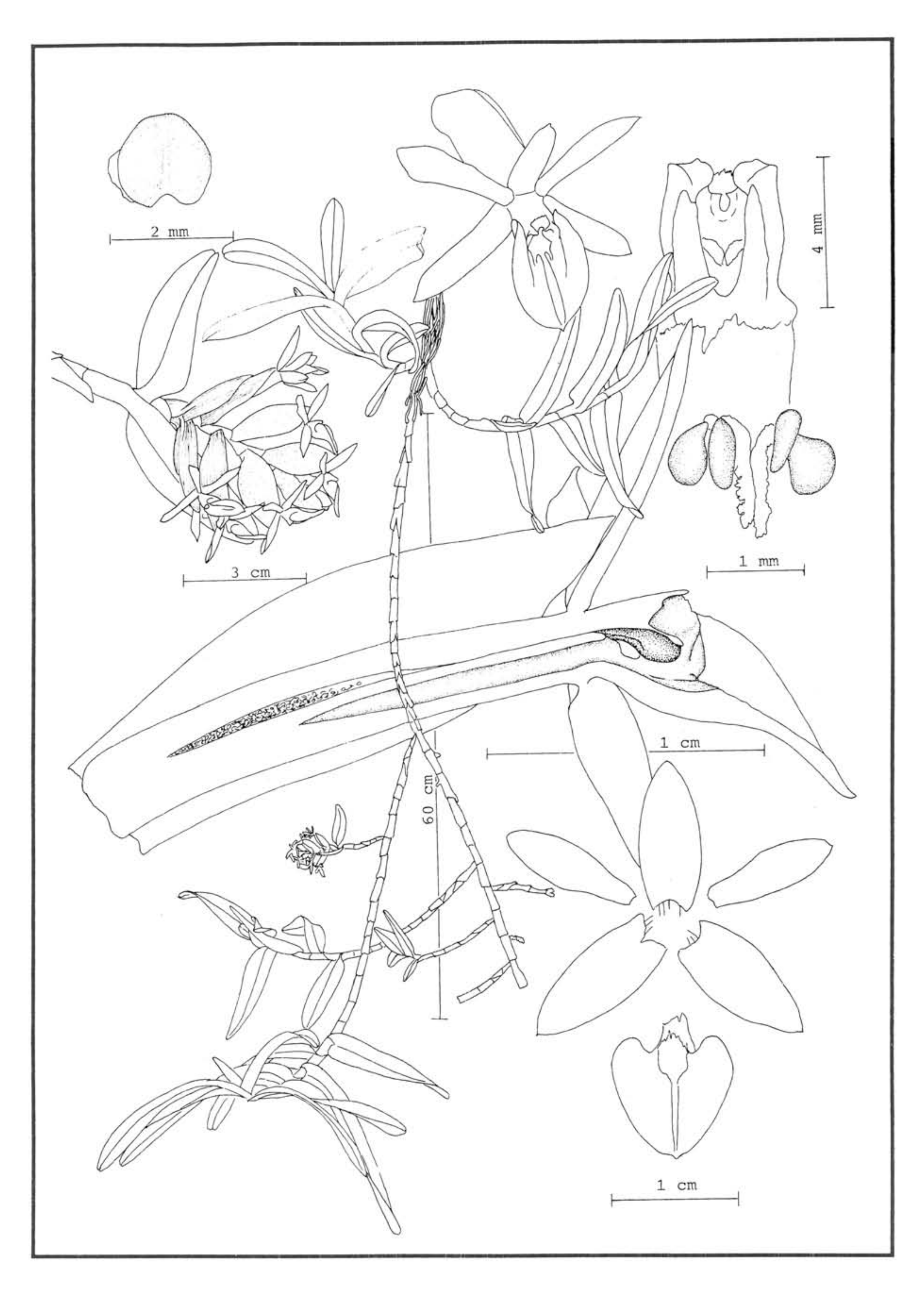
ETYMOLOGY: Mixtoides is derived from the epithet mixtum and the Greek suffix -oides, -like, similar to, and refers to the similarity of this species to E. mixtum.

REFERENCES: Hágsater, E. 1990. Epidendrum mixtum Schltr. In: Hágsater, E. & G.A. Salazar (eds.), **Icones Orchidacearum 1:** Pl. 36.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez **Editors: E. Hágsater & G. A. Salazar**

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EPIDENDRUM MORA-RETANAE Hágsater

Text on the reverse side

Plate 160

EPIDENDRUM MORA-RETANAE Hágsater, *sp. nov.*

Holotype: PANAMA: Chiriquí: Cuesta de Piedra-Finca El Milagro, 800-1000 m, prepared from cultivated material, 27 February 1984, *E. Hágsater 6499 & R. L. Dressler*, AMO! (illustration voucher.)

Epidendro acuñae Dressler simile, sed foliis subcoriaceis, non carnosis, bracteis approximatis bel partim imbricatis, 4-9 floribus eburneis, fragrantissimis.

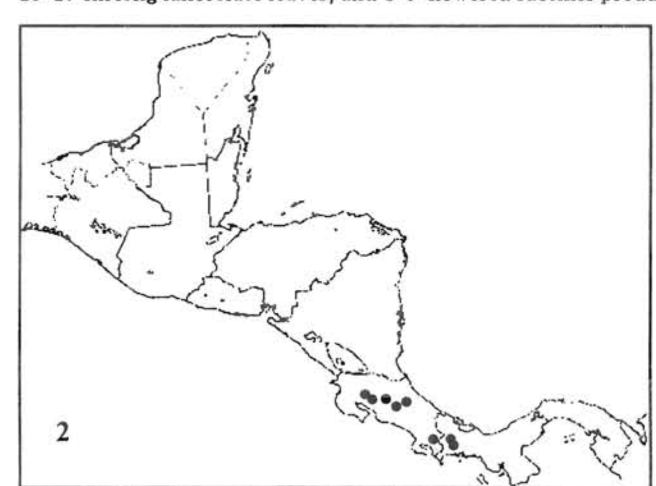
Hierba epífita, colgante, ramificada, 80-300 cm de largo. **Raíces** producidas solo de la base de la planta, carnosas, 1-2 mm de grosor. **Tallos** colgantes, ramificados, tipo caña, teretes, rectos, 5-8 mm de grosor, el principal hasta 300 x 0.6-1 cm, con hojas de 10-17 x 2-2.5 cm, las ramas primarias hasta 80 x 0.5-0.9 cm, con hojas de 5-17 x 1.6-2.5 cm, las ramas florales 7-11 x 0.4-0.7 cm, con hojas de 4-7 x 0.7-1.2 cm; las ramas florales se producen tanto del tallo principal como de las ramas primarias. **Hojas** equidistantes a lo largo del tallo y las ramas; vaina tubular, lisa, hasta 4 cm de largo; lámina angostamente lanceolada, ápice bilobado, margen entero, subcoriácea, lisa, verde claro con pequeños puntos negruzcos. **Inflorescencia** terminal en las ramas, florece una sola vez, dística, 4-7 cm de largo; pedúnculo corto, con 3-5 brácteas imbricadas, conduplicadas, de 15-23 mm de largo. **Brácteas florales** más largas que el ovario, ovadas, conduplicadas, aproximadas a parcialmente imbricadas, verdes con pequeños puntos negruzcos, rápidamente tornándose pardas, 18-25 mm de largo. **Flores** 4-9, simultáneas, blanco-crema, base de la columna verde, ápice blanco-crema; fragancia diurna, dulce, intensa. **Ovario** no inflado, terete, no ornamentado, verde, 15-22 mm de largo. **Sépalos** extendidos, libres, con quilla dorsal apical pequeña, glabros, subcoriáceos. **Sépalo dorsal** ovado-elíptico, agudo, márgenes algo revolutos, plurinervado, 10-12 x 3-5 mm. **Sépalos laterales** ovado-lanceolados, agudos, márgenes algo revolutos, plurinervados, 10-12 x 3-5 mm. **Pétalos** extendidos, membranáceos, angostamente elíptico-oblanceolados, obtusos a redondeados, márgenes extendidos, plurinervados, 10-11 x 2-3.5 mm. **Labelo** unido a la columna, entero, carnoso, cordiforme, con callo en forma de "V" prolongándose en una carina central, márgenes enteros, 8.5-10 x 6-10 mm. **Columna** recta, corta, 4-5 mm de largo. **Clinandrio** no prominente, margen eroso. **Antera** obreniforme, 4-locular. **Polinios** 4, semiobovoides, lateralmente comprimidos, subiguales; caudículas del doble de largo que los polinios; viscidio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** prominentes, de la mitad del largo de la cavidad estigmática. **Nectario** profundo, penetrando la mitad del ovario, liso interiormente. **Cápsula** piriforme, 20-25 x 10-12 mm, con pico cónico de 5-6 mm de largo.

Epiphytic, hanging, branching herb. **Roots** produced only at the base of the plant. **Main stems and primary branches** with longer leaves than the flowering branches, which are produced from either the main stem or the primary branches. **Leaves** evenly distributed throughout the stem and branches, narrowly lanceolate, apex bilobed, subcoriaceous. **Inflorescence** terminal in the branches, distichous, flowers only once. **Floral bracts** longer than the ovary, shortly spaced apart to partly imbricating. **Flowers** 4-9, simultaneous, creamy-white, the base of the column green; fragrance diurnal, sweet, strong. **Sepals** ovate-elliptic to ovate-lanceolate, acute, many-nerved. **Petals** narrowly elliptic-oblanceolate, obtuse to rounded, many-nerved. **Lip** united to the column, entire, cordiform, with a V-shaped callus extended into a central keel. **Column** straight. **Clinandrium** not prominent, margin erose. **Pollinia** 4; caudicles soft and granulose, twice as long as the pollinia; viscidium semiliquid, transparent. **Rostellum** slit. **Nectary** deep, penetrating half the ovary. **Capsule** pyriform.

OTHER SPECIMENS: COSTA RICA: Alajuela: Alfaro s.n., AMES(x2)! US! Brenes 1593, AMES! CR! NY(x2)! Endres 126, W(x2)! Lent sub Rodriguez 1212, USJ! Tonduz 12189, BR! G(as "Pittier 12189", x2)! P! US(x2)! 13180, P! Williams et al. 29007, NY! **Cartago:** Lankester 771, AMES! 1395, AMES(x2)! SEL! 1664, SEL! 1760, SEL! 1801, SEL! Standley 36008, AMES! US! **Guanacaste:** Standley & Valerio 45636, US! **Heredia:** Hágsater et al. 6689, AMO! **Puntarenas:** Croat 26671, MO! **NICARAGUA:** Heller 1590, SEL! Skutch 1590, SEL! **PANAMA:** Chiriquí: Davidson 213, F! 434, F!

DISTRIBUTION AND ECOLOGY: Nicaragua, Costa Rica and Panama. Hanging from the tallest trees in tall evergreen forests, from 600 to 1800 m altitude. Flowering from February to April.

RECOGNITION: Epidendrum mora-retanae has large, hanging, much branching plants with subcoriaceous (not fleshy), 10-17 cm long lanceolate leaves, and 4-9-flowered racemes produced in flowering branches arising from either the main stem or the primary branches, with subimbricating floral bracts and creamy-white, fragrant flowers. E. acuñae Dressler is similar, but has thicker, fleshy leaves and 1-3 brownish or greenish flowers in a much smaller inflorescense. E. santaclarense Ames has green flowers, widely spaced floral bracts, and the flowers are produced in larger branches. E. paranaënse Barb. Rodr., from Brazil, is similar in habit but differs in the strongly imbricating floral bracts and in floral details.

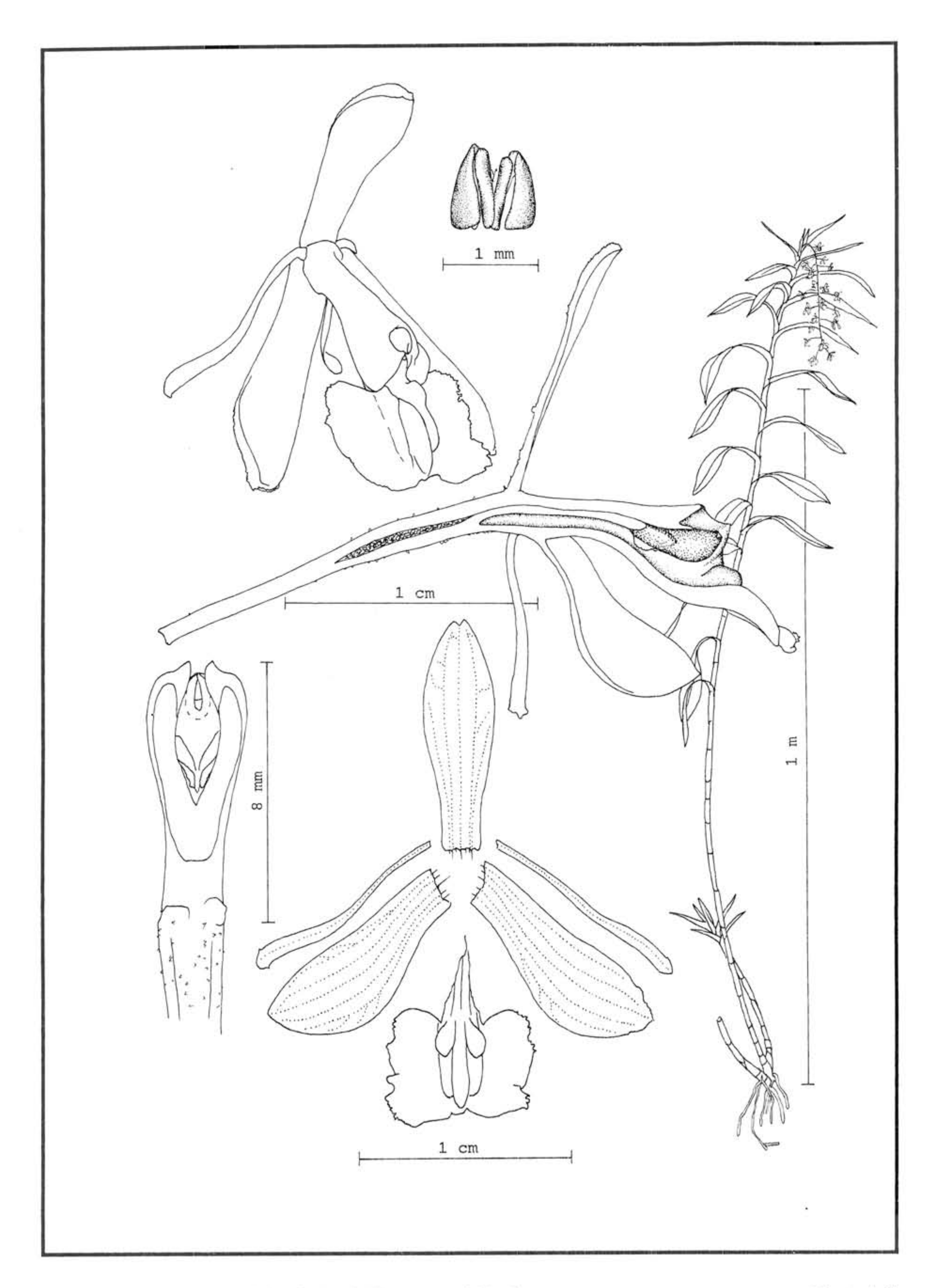


CONSERVATION STATUS: Not threatened. Though the habitat in some parts of its original range of distribution has been disturbed, this species is still found frequently in conserved areas and is of little horticultural interest.

ETYMOLOGY: The epithet honors Biologist Dora Emilia Mora-Retana, Director of the Lankester Garden, University of Costa Rica, with a main interest in the study and conservation of the Costa Rican orchids.

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EPIDENDRUM MURICATOIDES Hágsater & Dodson

Text on the reverse side

Plate 161

EPIDENDRUM MURICATOIDES Hágsater *et* Dodson, *sp. nov.*

Holotype: COLOMBIA: Valle del Cauca: Talud de roca al lado de la cortina de la Hidroeléctrica del Alto Anchicayá, 600 m, prensada en cultivo 3 junio 1985, *E. Hágsater 7372, R. L. Dressler & J. Folsom*, AMO! (illustration voucher.) Clonotype: pressed 16 July 1984, COL!

Epidendro goodspediano A.D. Hawkes simile, sed bracteis florum inferiorum quam ovariis multo longioribus, ovario sparse trichomatibus hyalinis vestito, et labello marginibus erosis differt.

Hierba terrestre, cespitosa, 40-140 cm de alto. Raíces de la base de los tallos, sencillas, 1-3 mm de grosor. Tallo simple, erecto, recto, terete, 40-135 x 0.6-1 cm. Hojas distribuidas a todo lo largo del tallo; vaina tubular, lisa, 2-4 cm de largo; lámina elíptica, aguda, membranácea, de color verde lustroso, nervaduras claramente marcadas, 8-29 x 1.9-5 cm. Inflorescencia terminal, paniculada (ocasionalmente racemosa en ejemplares poco vigorosos), erecto-arqueada, 18-24 cm de largo; pedúnculo corto, terete, recto, finamente cubierto de tricomas cónicos, translúcidos, escasos, con ninguna o hasta 2 brácteas cerca de la base, éstas similares a las brácteas florales pero más grandes. Brácteas florales lanceoladas, acuminadas, las inferiores mucho más largas y las apicales mucho más cortas que los ovarios respectivos, 3-33 x 2-4 mm. Flores 12-140, simultáneas, resupinadas, de consistencia delicada, con fragancia débil, nocturna, herbácea, color ocre claro, la base de la columna verde, el ápice de la columna y el labelo blancos. Ovario terete, algo dilatado hacia el ápice, 10-16 mm de largo, con tricomas escasos, cónicos, translúcidos. Sépalo dorsal oblanceolado, obtuso, carnoso, dorsalmente provisto de tricomas escasos, 5-nervado, 11 x 3-3.5 mm. Sépalos laterales oblanceolados, ligeramente falcados, obtusos, 5-nervados, 10-11 x 4-4.5 mm. Pétalos filiformes, descendentes, paralelos a los sépalos laterales, redondeados, 1-nervados, 10-11 x 0.7 mm. Labelo unido a la columna, entero, bicalloso, 3-5-carinado, subcuadrado, base cordada, ápice redondeado a someramente emarginado, margen irregularmente eroso, 6 x 7-8 mm. Columna recta, 7.5-9 mm de largo. Clinandrio obsoleto, margen entero. Antera subesférica, 4-locular. Polinios 4, semiobovoides, lateralmente comprimidos, tipo "ala de pájaro", translúcidos, la superficie muy irregular; caudículas granulosas, del mismo largo que los polinios; viscidio semilíquido, transparente. Rostelo subapical, hendido. Nectario poco profundo, penetrando un poco detrás del perianto, no ornamentado. Cápsula no vista.

Terrestrial, caespitose herb. Stems reed-like, simple. Leaves distributed throughout the stem, elliptic, acute, membranaceous, bright green, with veins clearly marked. Inflorescence terminal, paniculate, erect-arcuate, with none to 2 bracts near the base, these similar to the floral bracts but larger. Floral bracts lanceolate, acuminate, those of the basal flowers much longer than the respective ovaries, progressively shorter. Flowers numerous, simultaneous, resupinate, light ochre, lip and apex of column white, base of column green. Ovary terete, with scarce, translucent conical trichomes. Sepals oblanceolate, obtuse, fleshy, the dorsal with scarce, translucent trichomes on the outer surface, 5-veined. Petals filiform, descending, parallel to the lateral sepals, 1-veined. Lip united to the column, entire, subquadrate, bicallose, 3-5-carinate, base cordate, apex rounded to shallowly emarginate, margins irregularly erose. Column straight. Clinandrium obsolete. Anther subspherical, 4-celled. Pollinia 4, semiobovoid, laterally compressed, "bird-wing" type, translucent, the surface very irregular; caudicles granulose; viscidium semiliquid. Rostellum subapical, slit. Nectary penetrating just behind the perianth.

OTHER SPECIMENS: ECUADOR: Esmeraldas: Hágsater et al. 10639, AMO! QCNE!

DISTRIBUTION AND ECOLOGY: Southwestern Colombia and northwestern Ecuador. Growing on rocks and exposed ground in very wet, tall forests at the foot of the Western Cordillera of the Andes, at around 600 m altitude. Flowering from April to July.



RECOGNITION: Epidendrum muricatioides closely resembles E. goodspeedianum A.D. Hawkes (=E. muricatum Rchb. f., non Poir.) both vegetatively and florally; it is, however, easily distinguished by the very long bracts of the lowermost flowers of the inflorescence, much longer than the respective ovaries, the erose (not fimbriate) margins of the lip and the sparse, translucent trichomes on the ovary and the outer surface of the sepals (not densely muricate). Both species are easily recognized in the field by the large, bright green leaves with clearly marked veins, somewhat resembling the leaves of maize. Epidendrum calothyrsus Schltr. has muricate ovaries, very large bracts at the base of the inflorescence and the lip deeply erose.

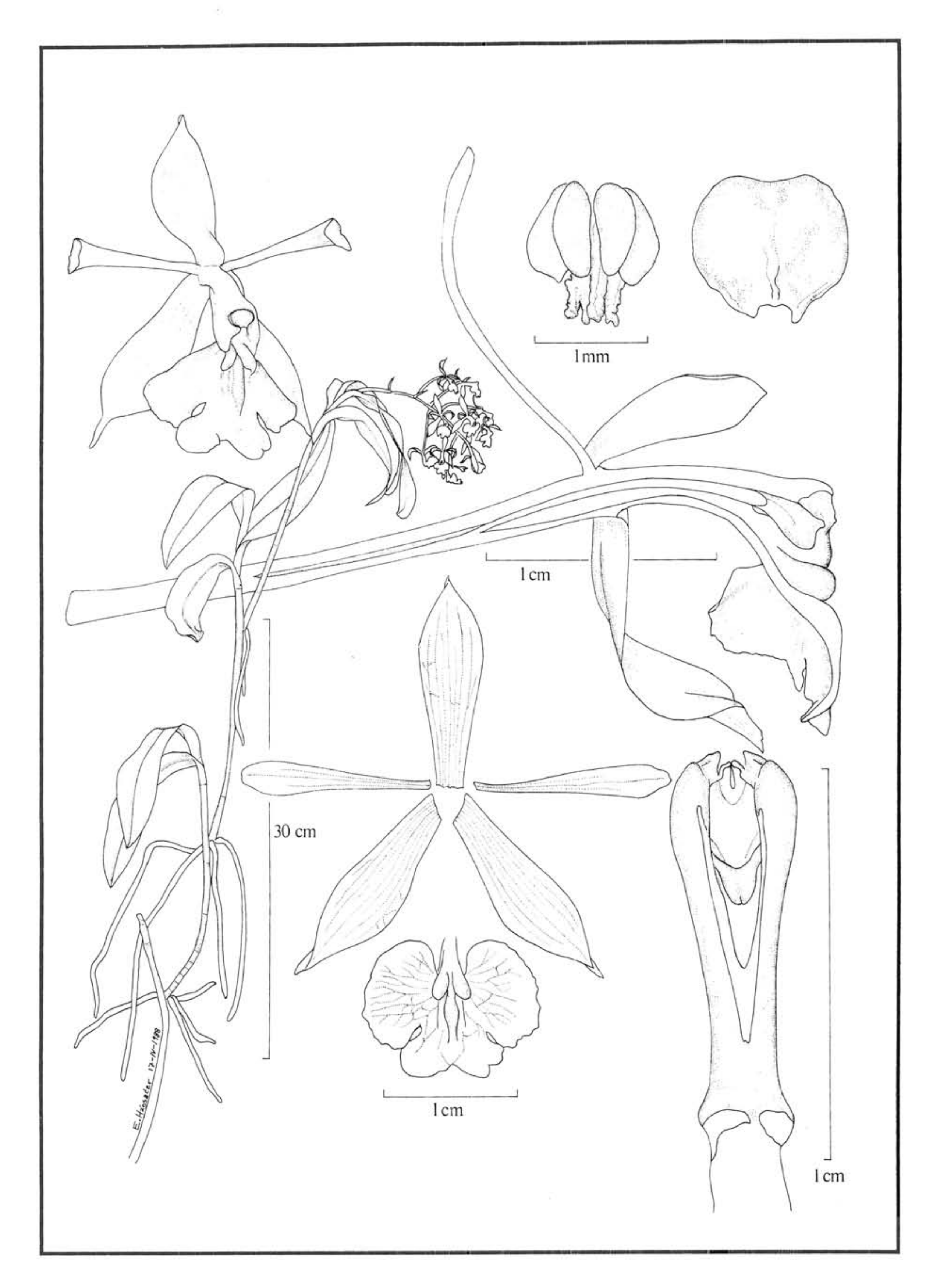
CONSERVATION STATUS: Not threatened. The species grows in protected areas.

ETYMOLOGY: From the latin muricatus, with rough short and hard points, and the suffix -oides, resembling, in reference to the similarity to E. goodspeedianum A.D. Hawkes (=E. muricatum Rchb. f., non Poir.).

Authors: E. Hágsater & C. H. Dodson Ilustrator: E. Hágsater Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM NICARAGUENSE Scheeren ex Hágsater

Plate 162

Text on the reverse side

EPIDENDRUM NICARAGUENSE Scheeren *ex* Hágsater, *sp. nov.*

Holotype: NICARAGUA: Between Sta. María Ostuma and Jinotega, 5500 ft, collected by *Milan Fiske*, cultivated by Walter Scheeren, pressed March 1972, AMES! (also drawings by Milan Fiske, January 1971, at AMES!, copy at AMO!; transparencies by Scheeren at AMO!).

Epidendro arbusculae Lindl. simile, sed differt floribus dilute roseis, labello cum disco candido et callis aurantiacis.

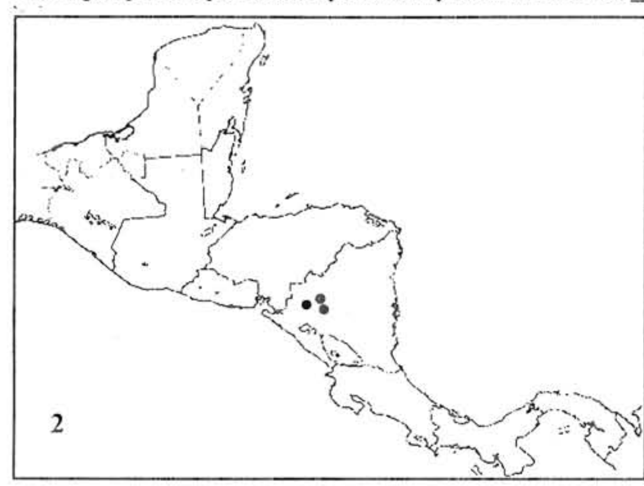
Hierba epífita, raramente litófita, de simpodio erecto donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, hasta ca. 80 cm de alto. **Raíces** originadas de la base de la planta y de la base de los tallos superiores, carnosas, delgadas, 2-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 16-20 cm de largo, 3-5 mm de grosor. **Hojas** 3, agrupadas hacia el ápice de cada tallo; vaina tubular, lisa, hasta 3.5 cm de largo; lámina angostamente elíptica, aguda, margen entero, subcoriácea, lisa, verde, 12-15 x 2-3 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, arqueada, ca. 12 cm de largo; pedúnculo terete, arqueado, no ornamentado, sin espata, con brácteas espaciadas, sin cubrir el pedúnculo, triangulares, acuminadas, de 12-13 mm de largo. **Bráctea floral** de 1/3 del largo del ovario, triangular, acuminada, 7-13 mm de largo. **Flores** ca. 15, simultáneas, resupinadas, con fragancia nocturna, dulce; sépalos y pétalos rosados, tornándose amarillentos con el tiempo, labelo blanco hacia el centro, callos amarillo-anaranjados, columna blanca, antera ligeramente rosada. **Ovario** no inflado, terete, no ornamentado, 20-30 mm de largo. **Sépalos** libres, con quilla dorsal apical prominente en los laterales, glabros, membranáceos. **Sépalo dorsal** reflexo, oblanceolado, agudo, márgenes extendidos, 7-nervado, 16 x 5 mm. **Sépalos laterales** extendidos, oblanceolados, acuminados, márgenes extendidos, 7-nervados, 17 x 5 mm. **Pétalos** incurvados, angostamente oblanceolados, ápice redondeado, márgenes extendidos, membranáceos, 3-nervados, 15 x 2.5 mm. **Labelo** unido a la columna, trilobado, bicalloso, con una qilla central roma y dos laterales muy cortas, membranáceo, 11 mm de largo, 14 mm de ancho entre los lóbulos laterales extendidos; lóbulos laterales semiorbiculares; lóbulo medio un poco más pequeño que los laterales y separado de ellos por senos muy angostos, bilobado, seno apical amplio, poco profundo, márgenes enteros. **Columna** ligeramente arqueada, delgada, 9-10 mm de largo incluyendo el clinandrio. **Clinandrio** no prominente, margen entero. **Antera** subesférica, con una quilla angosta y roma al frente, 4-locular. **Polinios** 4, semiobovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, ligeramente más largas que los polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** obsoletos. **Nectario** poco profundo, penetrando 1/4 del ovario, liso interiormente. **Cápsula** no vista.

Epiphytic herb, where the new stem is produced from the middle of the previous stem. **Roots** fleshy, slender, from the base of the stems. **Leaves** usually 3, near the apex of the stem, narrowly elliptic, acute. **Inflorescence** terminal, from the mature stem, arcuate, racemose. **Floral bracts** triangular, acuminate, about 1/3 as long as the ovary. **Flowers** ca. 15, simultaneous, resupinate, sweetly fragrant at night, pink turning yellowish with age, the lip white towards the center, with deep orange-yellow calli. **Sepals** oblanceolate, the dorsal somewhat reflexed, acute, the laterals spreading, acuminate, 7-veined. **Petals** incurved, narrowly oblanceolate, 3-veined. **Lip** united to the column, 3-lobed, membranaceous, with two subglobose calli at the base and 3 keels running down the middle, the lateral keels smaller; lateral lobes semiorbicular; midlobe smaller than the laterals, bilobed. **Column** slightly arcuate, thin. **Clinandrium** obsolete, entire. **Anther** subspherical, with a central keel down the middle, 4-celled. **Pollinia** 4, semiobovoid, laterally compressed, subequal; caudicles soft and granulose; viscidium semiliquid. **Rostellum** apical, slit. **Nectary** shallow, penetrating 1/4 of the ovary.

OTHER SPECIMENS: NICARAGUA: Jesup sub Hágsater 7696, AMO! (illustration voucher.) **Estelí**: Moreno 22661, SEL! **Jinotega**, Hawkes 2195, K! 2196, K! **Matagalpa**, Neill 3016, SEL! Williams et al. 23369, LL! 23381, F! G! LL! NY! S! US! W! Williams 23451, G! LL! 23493, F! LL! NY! US! W! Williams & Molina 42768, MICH! NY! US!

DISTRIBUTION AND ECOLOGY: Apparently endemic to Nicaragua, in the departments of Estelí, Jinotega and Matagalpa, especially around Santa María Ostuma. Epiphyte in cloud forest. Flowering in December and January (also from March to May in cultivation).

RECOGNITION: The pale pink and white flowers with orange-yellow calli and the sweet nocturnal fragrance are unique in this group and separate this species easily from its relatives. Epidendrum camposii Hágsater has whitish-pink flowers but white calli which are continuous with the lateral keels of the disc. Epidendrum magnificum Schltr. has deep pink to deep purple flowers, is known only from Guerrero, Mexico, and the flowers are odorless. Epidendrum arbuscula Lindl., from Guatemala, may also have pinkish flowers, but the lip is differently shaped. Another related species from El Salvador and Guatemala is E. polychromum Hágsater, which can be separated by multicolored flowers with a conspicuous, purplish ring around the disc of the lip.



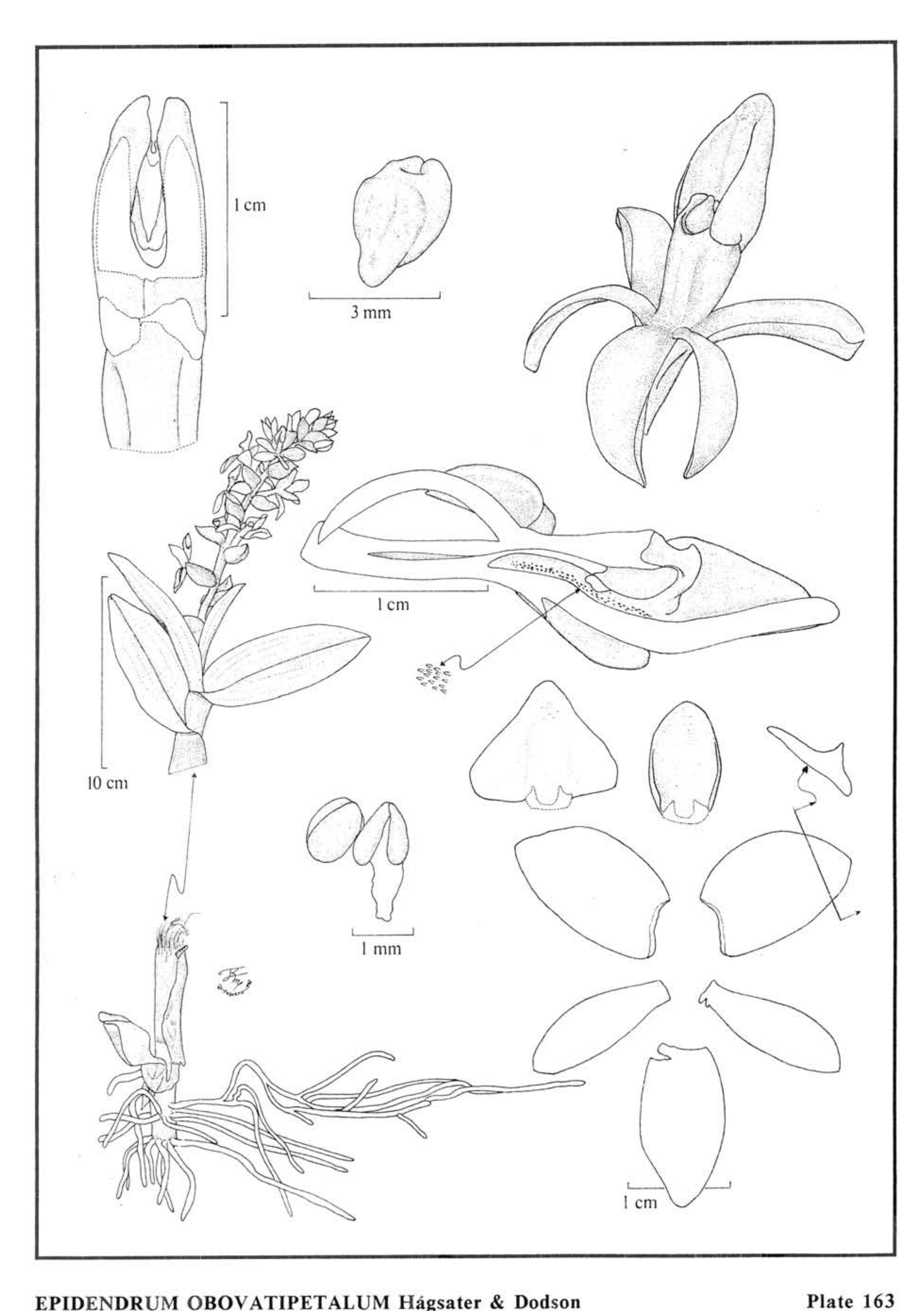
CONSERVATION STATUS: Undetermined.

ETYMOLOGY: The species seems to be endemic to Nicaragua, and is thus named after that Central American country.

NOTE: Walter Scheeren identified photographs at AMES as Epidendrum nicaraguense but never published the name, which is validly published here for the first time.

Author: E. Hágsater Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM OBOVATIPETALUM Hágsater & Dodson

Text on the reverse side

Plate 163

EPIDENDRUM OBOVATIPETALUM Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Zamora-Chinchipe: Beyond the pass, Yangana to Valladolid, 3200 m, April 1985, *D. Dalessandro 412*, RPSC! (illustration voucher.)

Epidendro macrostachyo Lindl. simile, sed sepalis petalisque obtuso-rotundatis, labello triangulari, basi truncato, non cordato, nectario papillis reclinatis vestito differt.

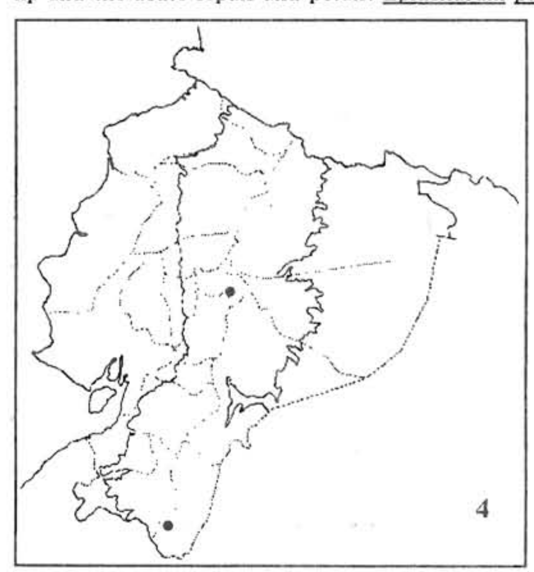
Hierba terrestre, cespitosa. Raíces producidas en la base del tallo principal, carnosas, 2-4 mm de grosor. Tallos erectos, ramificados cuando maduros, tipo caña, largo no determinado, 8-14 mm de grosor. Hojas distribuidas a lo largo del tallo; vaina tubular, rugosa; lámina elíptica, obtusa, coriácea, 8-9.5 x 3.2 cm. Inflorescencia terminal, del tallo maduro, florece una sola vez, racemosa, erecta, ca. 15 cm de largo, sin espata, con una bráctea basal aparentemente foliácea. Brácteas florales prominentes, las inferiores un poco más largas que el ovario, progresivamente más cortas, hasta algo más cortas que el ovario, abiertas, amplias, ovadas, obtusas, 14-20 mm de largo. Flores numerosas, no resupinadas, sucesivas, aunque más de la mitad puede estar abierta a un tiempo, carnosas, color blanco teñido de morado, con cristales evidentes al secarse o fijarse en FAA. Ovario grueso, no inflado, no ornamentado, 10-11 mm de largo. Sépalo dorsal reflexo, ovado-elíptico, redondeado, carnoso, glabro, 15 x 8 mm. Sépalos laterales entreabiertos, oblicuamente ovados, obtuso-redondeados, con una quilla dorsal, carnosos, glabros, 15 x 9 mm. Pétalos extendidos en la base, recurvados arriba, oblanceolados, obtuso-redondeados, carnosos, 15 x 5 mm. Labelo unido a la columna, entero, triangular, la base truncada, los ángulos basales redondeados, carnoso, se puede aplanar una vez rehidratado, ecalloso, sin quillas, en posición natural con los lados abrazando parcialmente el ápice de la columna, 11 x 14 mm. Columna recta, gruesa, 10 mm de largo, con un diente grueso, uncinado, a cada lado del ápice. Clinandrio obsoleto, entero. Antera subovoide, aguda, carnosa, 4-locular. Polinios 4, obovoides, lateralmente comprimidos; caudículas suaves y granulosas. Rostelo subapical, hendido. Nectario poco profundo, apenas penetrando detrás del perianto, con papilas reclinadas hacia el interior en la superficie inferior frente a la cavidad estigmática. Cápsula no vista.

Terrestrial, caespitose herb. Roots fleshy, from the base of the main stem. Stems erect, thick, branching when mature, reed-like. Leaves distributed throughout the stem; sheath rugose; blade elliptic, obtuse. Inflorescence terminal, from the mature stem, racemose, erect, flowering only once, without spathe, with an apparently foliaceous basal bract. Floral bracts prominent, the lowermost ones somewhat longer than the ovary but progressively smaller, to slightly shorter than the ovary, wide, ovate, obtuse. Flowers numerous, non-resupinate, successive but about half of them may be open at the same time, fleshy, white suffused with purple. Dorsal sepal reflexed, ovate-elliptic, rounded, fleshy, glabrous. Lateral sepals obliquely ovate, obtuse-rounded, with a dorsal keel, fleshy, glabrous. Petals oblanceolate, obtuse-rounded, fleshy. Lip united to the column, entire, triangular, base truncate, basal angles rounded, ecallose, without keels, partly embracing the apex of the column. Column straight, thick, with an uncinate tooth at each side of the apex. Clinandrium obsolete, entire. Anther subovoid, acute, fleshy, 4-celled. Pollinia 4, obovoid, laterally compressed; caudicles soft and granulose. Nectary shallow, not penetrating beyond the perianth, with minute, sloping inwards papillae in front of the stigma.

OTHER SPECIMENS: ECUADOR: Tungurahua: Dodson & Thien 1085, QCA! SEL!

DISTRIBUTION AND ECOLOGY: Presently known only from the páramos on the eastern side of the Eastern Cordillera of the Andes in Ecuador, at 3200 m altitude. Flowering recorded in April and October, probably throughout the year.

RECOGNITION: Epidendrum obovatipetalum is closely related to E. macrostachyum Lindl., but is recognized by the obtuse-rounded, not acute, floral segments and the triangular lip, truncate at the base (not cordate). The lower surface of the nectary is ornamented with sloping papillae which face inwards. Epidendrum oxycalyx Hágsater & Dodson has larger, acute leaves, flowers with longer, acuminate floral segments and the inflorescence is often paniculate. Epidendrum orthophyllum Hágsater & Dodson differs in the conspicuously ascending, narrower leaves, the broadly triangular, cordate lip and the acute sepals and petals. Epidendrum palaciosii Hágsater & Dodson has flowers about half the size of E. obovatipetalum, the sepals muriculate outside, without keels, and long, acute hairs on the floor of the nectary, which point outward.



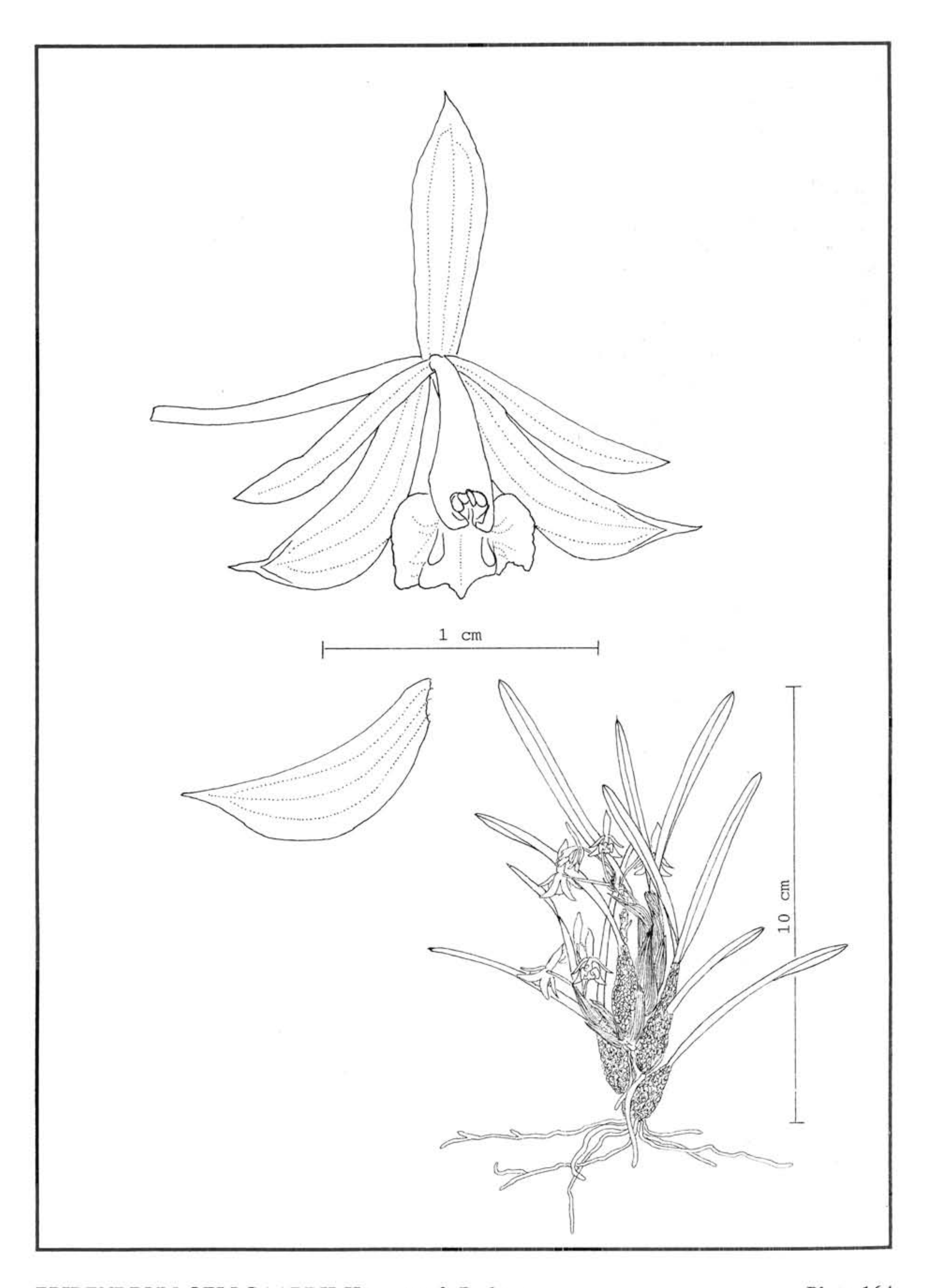
CONSERVATION STATUS: Unkown.

ETYMOLOGY: The epithet is applied in reference to the narrowly obovate (i.e., oblanceolate) petals characteristic of this species.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM OELLGAARDII Hágsater & Dodson

Plate 164

Text on the reverse side

EPIDENDRUM OELLGAARDII Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Loja: mule track Amaluza-Palanda, western slope, near the pass (W of Laguna Chuquiragua), grass paramo with patches of montane forest with large trees in protected places, 3100-3400 m, 79°29'W, 4°35'S, Sept. 22, 1976, *B. Öllgaard & H. Balslev 9635*, AAU! (illustration voucher.)

Epidendro harmsiano Kraenzl. simile, sed pseudobulbis pyriformibus, 1-3 foliis linearibus usque ad 6 mm latis, sepalis 9-10 mm longis.

Hierba terrestre, ascendente, en ocasiones ramificada, hasta 15 cm de alto. **Raíces** de la base de la planta, no se producen en las partes ascendentes, filiformes, ca. 1 mm de grosor. **Tallos** de la base del crecimiento anterior, engrosados para producir seudobulbos piriformes, parecidos a los de una Maxillaria a primera vista, alternados, muy arrugados (en seco), color amarillento tornándose pardo, uni- a trifoliados cerca del ápice, 15-25 x 5-8 mm, cubiertos cuando jóvenes por ca. 3 vainas basales escariosas, pardas, que se deshacen en fibras pardas después del segundo año. **Hojas** linear-elípticas, subcoriáceas, dorsalmente carinadas, ápice aristado a tridenticulado, verdes, 3.6-6.7 x 3-6 mm, la hoja inferior imperfecta, formando una vaina escariosa semejante a las vainas basales. **Inflorescencia** terminal, del seudobulbo joven, inmaduro, un racimo muy corto, erecto, sin espata, florece una sola vez; pedúnculo 5-8 mm de largo. **Bracteas florales** agudas, mucho más cortas que el ovario, 2-3 mm de largo. **Flores** 3-5, simultáneas, "amarillo-verdosas". **Ovario** delgado, no dilatado, no ornamentado, 10-12 mm de largo. **Sépalos** extendidos, oblanceolado-elípticos, los laterales fuertemente falcados, acuminados, 3-nervados, 9-10 x 3 mm. **Pétalos** lineares, agudos, falcados, algo colgantes, 1-nervados, 8.5 x 1.2 mm. **Labelo** unido a la columna, trilobado, cordado, subtruncado en el ápice, con dos callos prominentes frente a la columna y a los lados del disco, 3.5 x 5 mm; lóbulos laterales dolabriformes; lóbulo medio apenas sobresaliendo entre los laterales, engrosado, carnoso, sinuado-tridentado. **Columna** arqueada, 6.3 mm de largo. **Clinandrio** obsoleto, entero. **Polinios** 4, obovoides, lateralmente comprimidos, los interiores algo más pequeños. **Nectario** corto, penetrando el ovario ca. 2 mm. **Cápsula** no vista.

Terrestrial, ascending, sometimes branching **herb**. **Roots** from the base of the plant only, filiform. **Stem** produced from the base of the previous growth, thickened to form a pyriform pseudobulb, somewhat Maxillaria-like at first glance, forming an alternating series. **Pseudobulbs** very wrinkled (in dried material), yellowish turning brown, completely covered when young by ca. 3 scarious, brown basal sheaths, which decay into brown fibers after the second year, 1-3-leaved near the apex (sometimes the lower leaf is imperfect and forms a papery sheath, somewhat similar to the basal sheaths). **Leaves** linear-elliptic, subcoriaceous, dorsally carinate, apex aristate to 3-toothed, green. **Inflorescence** terminal, from the young immature pseudobulb, a very short, erect raceme, flowers only once, the short peduncle without a spathe. **Floral bracts** long, acute, much shorter than the ovary. **Flowers** 3-5, simultaneous, "greenish-yellow". **Ovary** thin, not dilated, unornamented. **Sepals** spreading, narrowly obovate-elliptic, the laterals strongly falcate, acuminate, 3-veined. **Petals** linear, acute, falcate, somewhat hanging, 1-veined. **Lip** united to the column, 3-lobed, with two prominent calli in front of the column and on the sides of the disk, base cordate, apex subtruncate apically; lateral lobes dolabriform; midlobe barely exceeding the lateral lobes, fleshy-thickened, sinuate-tridentate. **Column** arcuate. **Clinandrium** obsolete, entire. **Pollinia** 4, obovoid, laterally compressed, the internal pair somewhat smaller. **Nectary** short, penetrating the ovary ca. 2 mm.

DISTRIBUTION AND ECOLOGY: Known only fron the type; terrestrial in grass páramo at 3100-3400 m altitude. Flowering in September.

RECOGNITION: Epidendrum oellgaardii can be readily identified by the prominent, pyriform pseudobulbs about 15-25 mm long, with 1-3 linear leaves near the apex, and the short raceme with 3-5 flowers. The only species in the genus which seems remotely similar is E. harmsianum Kraenzl., of which we have only seen a photo (F! NY!) of the type which was destroyed in Berlin, but that species can be distinguished by the cylindric, up to 4.5 cm long pseudobulbs, with two apical leaves 1.6 cm wide and sepals 1.6 cm long. Both species are apparently endemic to the high páramos of the Andes.

CONSERVATION STATUS: Unknown.

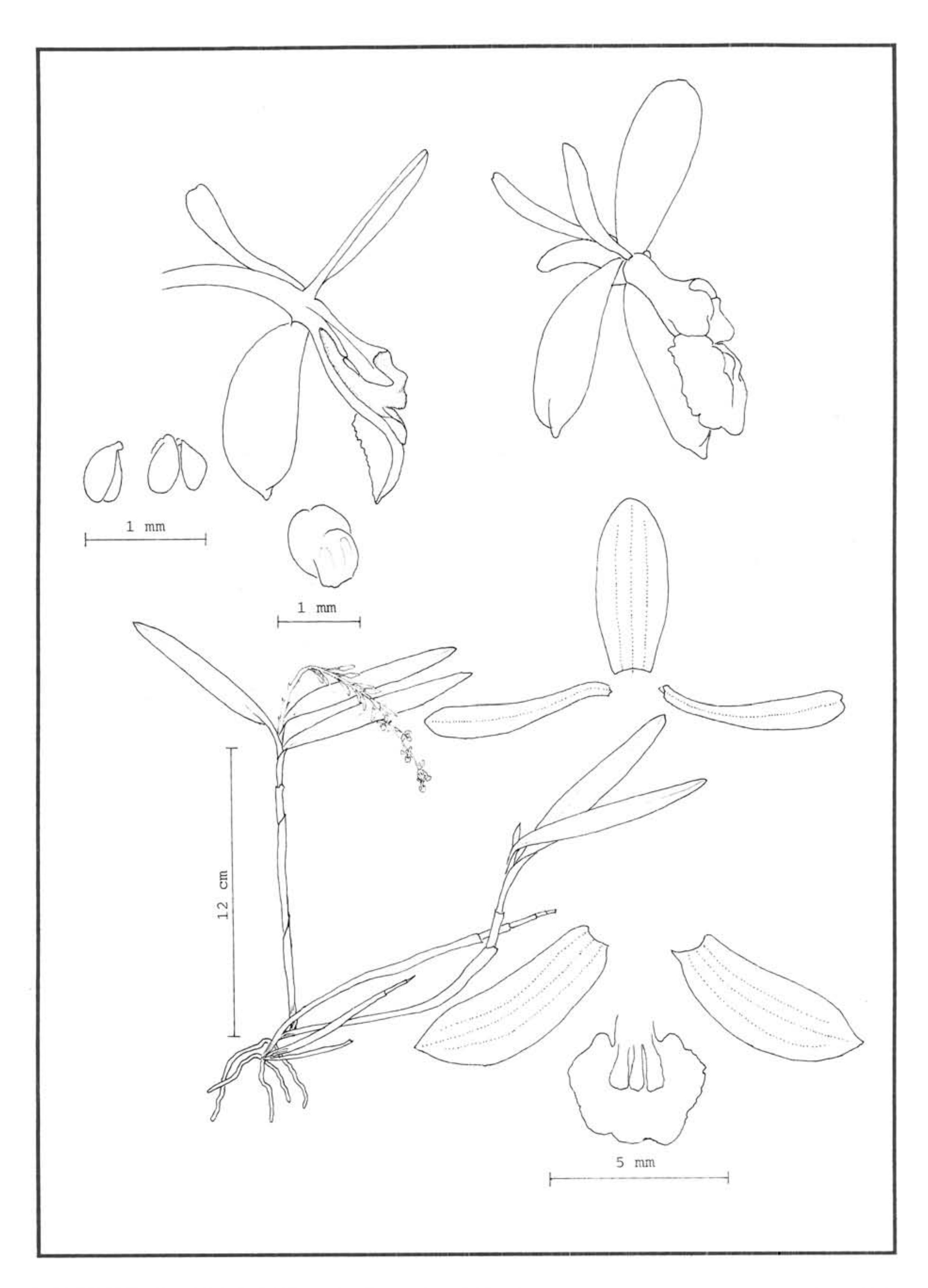
ETYMOLOGY: We dedicate this species to B. Öllgaard who has done extensive field collecting in Ecuador on behalf of the Botanical Institute at the University of Aarhus, Denmark, and who collected the holotype.

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Authors: E. Hágsater & C.H. Dodson Ilustrator: E. Hágsater Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM OPIRANTHIZON Hágsater & Dodson **Plate 165**

Text on the reverse side

EPIDENDRUM OPIRANTHIZON Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Prov. Morona-Santiago: km 45-59 Méndez to Morona, 800-1000 m, flowered at RPSC 20 Mar. 1989, *C. Luer & P. Jessup sub C.H. Dodson 17938*, RPSC! (illustration voucher.) Isotype: AMO!

Epidendro macro Dressler simile, sed anthesis promotione ab racemi apicem basim versus, labello suborbiculari-subrhombico.

Hierba epífita, cespitosa, 13-18 cm de alto. **Raíces** carnosas, ca. 2 mm de grosor. **Tallos** delgados, rectos, teretes, producidos de la base del tallo anterior, 6-13 x ca. 0.3 mm. **Hojas** 3-5, distribuidas en el tercio apical del tallo; vaina tubular, 0.9-1.6 cm de largo; lámina angostamente elíptica, obtusa, 7-8 x 0.8-1 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, ca. 8 cm de largo, sin espata. **Brácteas florales** triangulares, agudas, de alrededor de la mitad del largo del ovario, 1.5-2 mm de largo. **Flores** resupinadas, numerosas, ca. 24, sucesivas, abriendo del ápice hacia la base del racimo, sépalos y pétalos amarillo-verdoso, labelo rosado-blanco. **Ovario** dilatado en la mitad apical, 2.5 mm de largo. **Sépalos** elípticos, 3-nervados, el dorsal redondeado, 4.5 x 2 mm, los laterales obtusos, falcados, 5.5 x 2 mm. **Pétalos** angostamente oblanceolados, obtusos a redondeados, uninervados, 4.5 x 0.9 mm. **Labelo** unido a la columna, entero, suborbicular-subrómbico, base cordada, ápice truncado, 3 x 3.5 mm, con tres quillas prominentes en la mitad basal, carnosas. **Columna** ligeramente recurvada, 4 mm de largo, terminada a cada lado en un diente carnosos. **Clinandrio** obsoleto, entero. **Antera** 4-locular, el frente circular, plano, con una quilla roma al centro. **Polinios** 4, obovoides, lateralmente comprimidos, con el lado interior de cada par plano, subiguales; caudículas granulosas. **Cápsula** no vista.

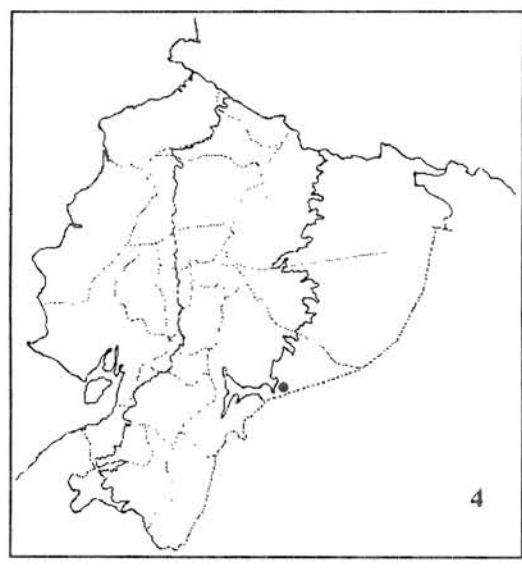
Epiphytic, caespitose **herb. Roots** fleshy. **Stems** reed-like, straight. **Leaves** 3-5, distributed on the apical third of the stem, narrowly elliptic, obtuse. **Inflorescence** terminal in the mature stem, flowers only once, racemose, without spathe. **Floral bracts** triangular, acute, about half as long as the ovary. **Flowers** resupinate, numerous, successive, opening from the apex of the raceme backwards, sepals and petals yellow-green, lip whitish-pink. **Sepals** elliptic, rounded or obtuse, 3-veined. **Petals** narrowly oblanceolate, obtuse to rounded, 1-veined. **Lip** united to the column, entire, suborbicular-subrhombic, base cordate, apex truncate, with three prominent, fleshy keels on the basal half. **Column** recurved, with a fleshy tooth at each side of the apex. **Clinandrium** obsolete, entire. **Anther** circular, flat, with a wide keel in front, 4-celled. **Polinia** 4, obovoid, laterally compressed, with the inner side of each pair flat; caudicles granulose.

DISTRIBUTION: ECUADOR: known only from the type. When pressed or preserved in FAA the flowers produce crystals much like those in Encyclia section Osmophytum, an unusual feature in Epidendrum also found in some species of the E. macrostachyum Lindl. group.

RECOGNITION: Epidendrum opiranthizon can be identified by the caespitose habit, racemose inflorescence without spathe or bracts at the base of the peduncle, small flowers opening from the apex of the raceme backwards, and entire, subrhombic lip with three fleshy keels on the basal half. Superficially the plant looks like Epidendrum macrum Dressler, but in that species the lip is 3-lobed and the flowers open simultaneously. Epidendrum roncanum Dodson & Vásquez has a paniculate inflorescence and the 3-lobed lip has a long, spatulate midlobe.

CONSERVATION STATUS: Unknown

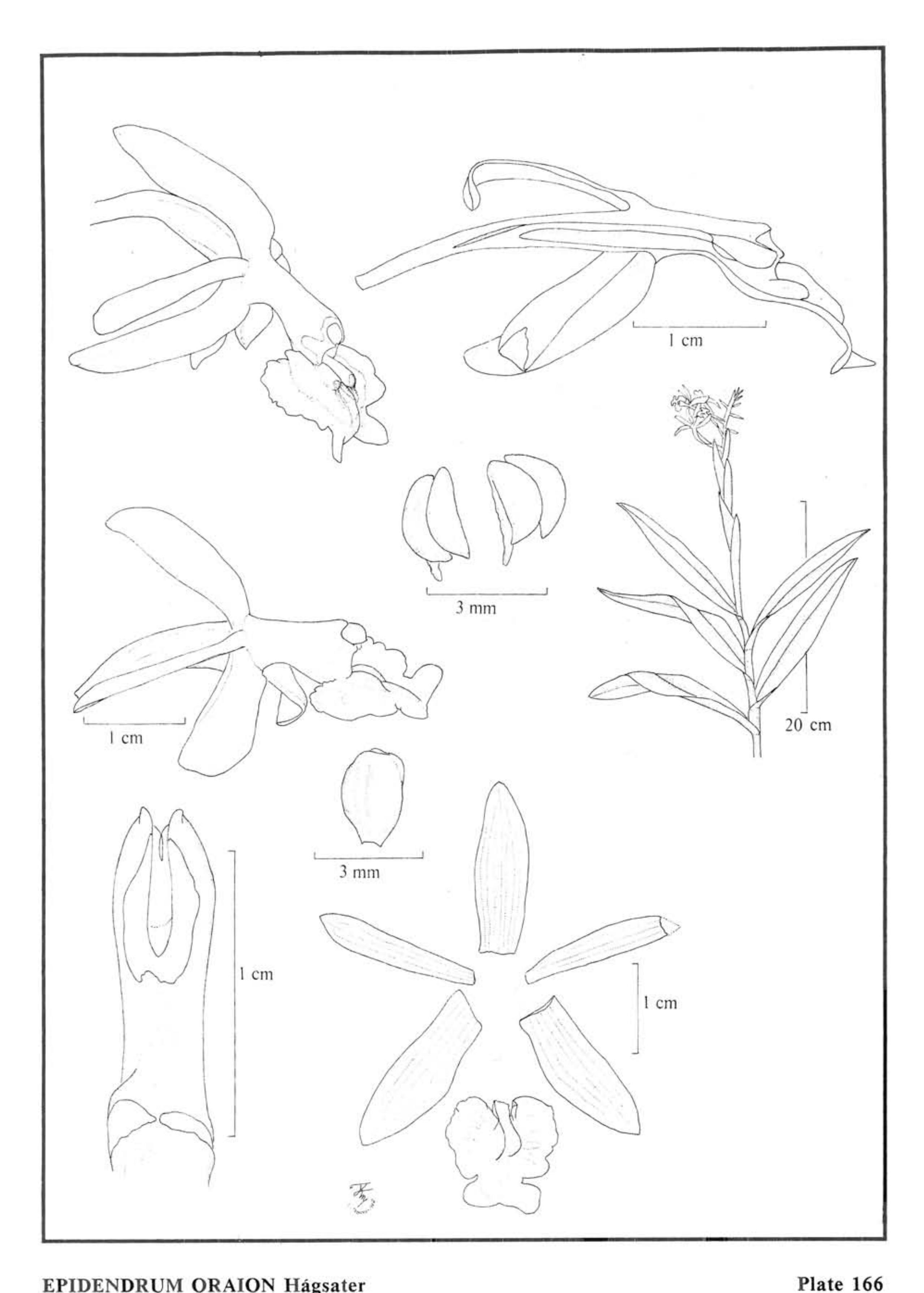
ETYMOLOGY: From the Greek ópiro, backwards, and anthizon, flowering, in reference to the peculiar successive flowering in which the apical buds open first.



Authors: E. Hágsater & C.H. Dodson Ilustrator: E. Hágsater Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM ORAION Hágsater

Text on the reverse side

Plate 166

EPIDENDRUM ORAION Hágsater, *sp. nov.*

Holotype: COLOMBIA: Depto. Antioquia; Mpio. Dabeiba, Chimiadó, 1600 m, colectado por H. Angarita, agosto 1986, cultivado por R. Londoño, prensado 28 junio 1989, *J.M. Múnera & R. Escobar 717*, AMO! (illustration voucher.) Isotype: (fls. in alcohol) JAUM.

Epidendro pfavii Rolfe simile, sed labelli lobis basalibus semiorbicularibus, margine irregulari, lobis apicalibus valde divaricatis, petalis anguste oblanceolatis, obtusis.

Hierba cespitosa, ca. 120 cm de alto. **Tallos** sencillos, tipo caña, teretes, rectos, 60-90 x 6-8 mm. **Hojas** distribuidas a lo largo del tallo; vaina tubular, lisa, hasta 3 cm de largo; lámina angostamente elíptica, subaguda, margen entero, lisa, 16-18 x 2-3 cm. **Inflorescencia** terminal, del tallo maduro, racemosa, produciendo nuevos racimos del mismo pedúnculo durante varios años, arqueado-colgante, 22-45 cm de largo; pedúnculo sin espata, con 5-8 brácteas alargadas, prominentes, imbricadas, agudas, conduplicadas, de 4.2-7.5 cm de largo; raquis ligeramente comprimido. **Bráctea floral** de poco menos de la mitad del largo del ovario, triangular, acuminada, 12-23 mm de largo. **Flores** 12-24, resupinadas, sucesivas, abriendo desde la base del racimo hacia el ápice, los botones florales apicales en desarrollo temprano cuando las primeras flores abren; coloración de intensidad variable, sépalos y pétalos fucsia, labelo blanco con la parte marginal fucsia y dos marcas fucsia oscuro sobre el ápice de los callos, columna rosada con manchas fucsia en el ápice. **Ovario** no inflado, terete, 20-40 mm de largo. **Sépalos** reflexos, libres, sin quilla dorsal, carnosos, elípticos, obtusos, márgenes extendidos, 5-nervados, con nervios secundarios, 18 x 6 mm. **Pétalos** reflexos, angostamente oblanceolados, obtusos, carnosos, membranáceos, márgenes extendidos, trinervados, 18 x 3 mm. **Labelo** unido a la columna, 4-lobado, cordado en la base, bicalloso, los callos extendiéndose hasta la mitad del disco, con una carina prominente, roma, llegando hasta el seno apical, 12 x 12 mm; lóbulos basales semiorbiculares, con márgenes irregulares; lóbulos apicales subovados a subcuadrados, fuertemente divaricados. **Columna** recta, delgada, 11 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** ovoide, 4-locular. **Polinios** 4, semiovoides, fuertemente comprimidos lateralmente, subiguales; caudículas suaves y lisas, ligeramente más largas que los polinios; viscidio semilíquido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** prominentes, de alrededor de la mitad del largo de la cavidad estigmática. **Nectario** profundo, penetrando alrededor de la mitad del ovario, liso interiormente. **Cápsula** no vista.

Caespitose herb. **Stems** simple, reed-like, terete. **Leaves** narrowly elliptic, subacute. **Inflorescence** terminal, from the mature stem, racemose, producing new racemes in successive years, arcuate; peduncle subtended by several imbricating, conduplicate, acute bracts. **Floral bracts** triangular, acuminate, about half as long as the ovary. **Flowers** successive, the first flowers open when the last buds are developing, resupinate; coloration more or less deep fuchsia, lip white with fuchsia margin and two dark spots at the apices of the calli. **Ovary** not inflated, terete. **Sepals** reflexed, free, fleshy, elliptic, obtuse, 5-veined, with secondary veins. **Petals** reflexed, narrowly oblanceolate, obtuse, 3-veined. **Lip** united to the column, 4-lobed, bicallose, the calli extending to the middle of the disc, with a prominent central, rounded keel reaching the apex, base cordate; basal lobes semiorbicular, margins irregular; apical lobes subovate to subquadrate, strongly divaricate. **Column** straight, slender. **Clinandrium** obsolete, entire. **Anther** ovoid, 4-celled. **Pollinia** 4, semiovoid, strongly compressed laterally, subequal; caudicles soft and smooth, slightly longer than the pollinia; viscidium semiliquid. **Rostellum** subapical, slit. **Nectary** deep, penetrating about half the ovary.

OTHER SPECIMENS: COLOMBIA: Antioquia: Escobar s.n., JAUM!

DISTRIBUTION AND ECOLOGY: Colombia. Known only from the type locality, where it is apparently frequent. It is under cultivation at Colomborquídeas.

RECOGNITION: *Epidendrum oraion* is recognized by the long peduncle of the inflorescence covered by long, imbricating, conduplicate bracts, the successive raceme with the first flowers opening when the apical buds are just developing, and the fuchsia flowers with the lip white with fuchsia margins and with two elongate, white calli with deep fuchsia markings at their apices. This species closely resembles the Costa Rican *E. pfavii* Rolfe, which can be distinguished by the triangular-dolabriform basal lobes of the lip, which are about as wide as long, and the apical lobes only slightly divergent. *Epidendrum quinquepartitum* Schltr., from eastern Bolivia, has similar habit and flower color to *E. oraion*, but the lip is asymmetrically 5-lobed.



CONSERVATION STATUS: Unknown.

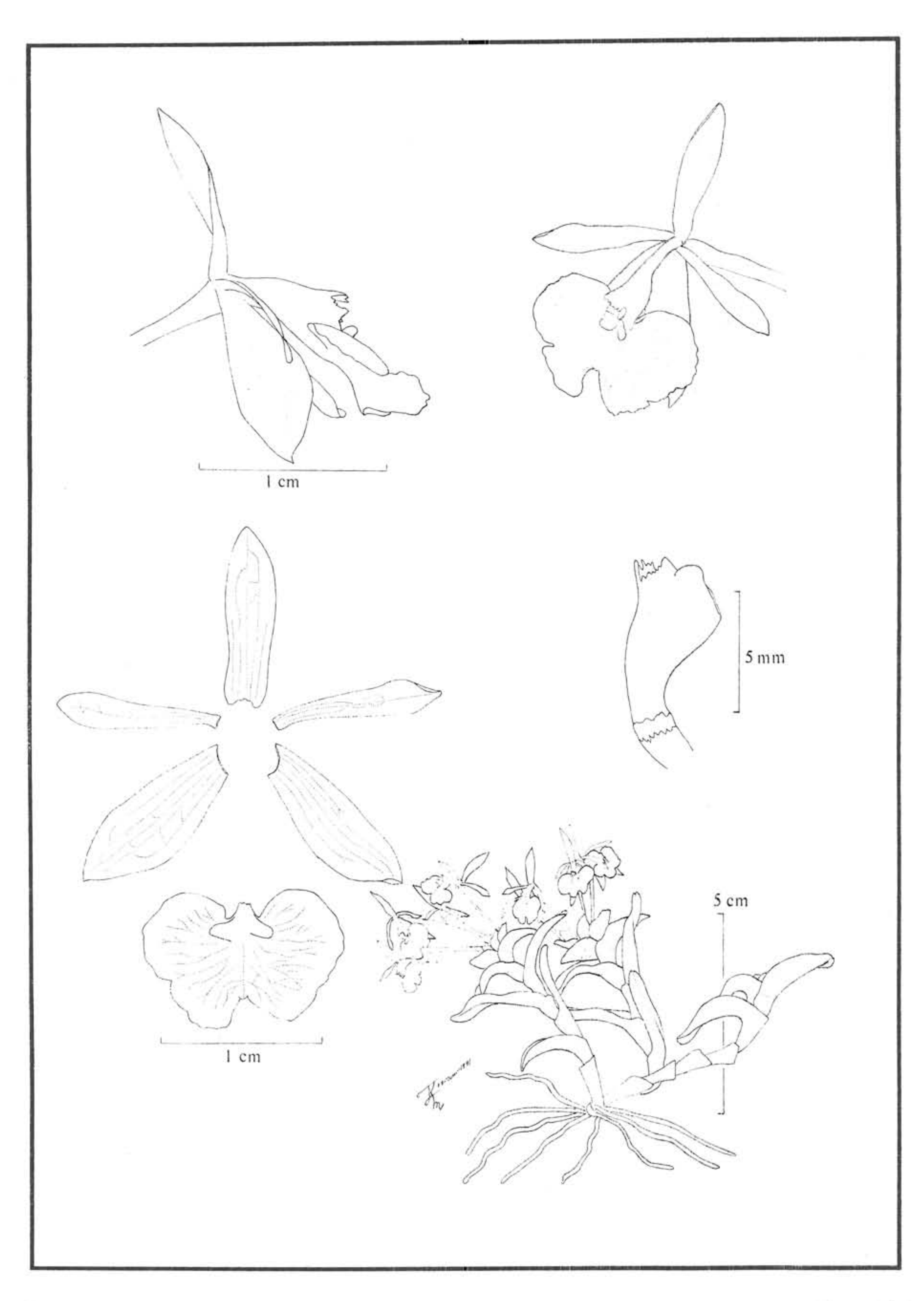
ETYMOLOGY: From the Greek *óraios*, beautiful, in reference to this being one of the most beautiful and colorful *Epidendrum* species.

REFERENCE: Hágsater, E. 1990. *Epidendrum*. In: Escobar, R. (ed.), Orquídeas Nativas de Colombia. Vol. 2. Fig. A-197, p. 179. (A color photograph of the type plant, identified as *Epidendrum* sp.)

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EPIDENDRUM ORIENTALE Hágsater & M. A. Díaz **Plate 167**

Text on the reverse side

EPIDENDRUM ORIENTALE Hágsater *et* M.A. Díaz, *sp. nov.*

Holotype: CUBA: Provincia Oriente, subida a la Laguna del Galano, Sierra del Frijol, La Alegria, Toa, ca. 1000 m, 2 enero 1954, *Hno. Alain 3854*, HAC! (illustration voucher, flowers.)

Epidendro difformi Jacq. simile, sed differt caulibus aspectu compacto, teretibus, 4-10 floribus, labello profunde cordato, bilobato (apparenter 4-lobato), apice sinu lato et profundo, lobis interdum emarginatis, columna arcuata prominentiis lateralibus apicalibus triangularibus, clinandrio breve, cavitatem obconicam formanti, margine irregulariter dentato.

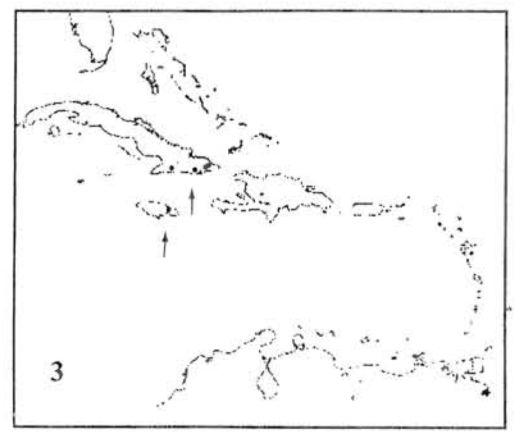
Hierba epífita, cespitosa, 7-15 cm de alto. Raíces basales, carnosas, 0.5-2 mm de grosor. Tallo sencillo, tipo caña, de apariencia compacta, terete, recto, 3-12 cm de largo. Hojas 4-8, equidistantes a lo largo del tallo; vaina tubular, lisa, 0.4-1.6 cm de largo; lámina subcoriácea, elíptica,ápice agudo a bilobaoa, margen entero, extendido, sin carina dorsal, 1.5-5.1 x 0.4-2 cm. Inflorescencia terminal en el tallo maduro, florece una sola vez, sésil, 2-3.2 cm de largo. Bráctea floral mucho más corta que el ovario. Flores 4-6, simultáneas, resupinadas, color verde brillante. Ovario no inflado, terete, no ornamentado, 17.5-23 mm de largo. Sépalos subcoriáceos, glabros, extendidos, libres. Sépalo dorsal elíptico, agudo a redondeado, márgenes enteros, revolutos, 5-nervado, 9.5-12 x 2-4 mm. Sépalos laterales elípticos, Ligeramente oblicuos, agudos, márgenes enteros, revolutos, 5-nervados, 9.5-12 x 2.3-5 mm. Pétalos membranáceos, oblanceolados, agudos a redondeados, márgenes enteros, extendidos, 3-nervados, 8-12 x 1.3-3 mm. Labelo unido a la columna, bilobado, bicalloso, los callos cortos, gruesos, divergentes, base profundamente cordada, ápice con un seno profundo y amplio, 5-6.5 x 10-11 mm; lóbulos subovados, en ocasiones con una muesca marginal dando la apariencia de que el labelo es 4-lobado, márgenes irregularmente crenulados. Columna arqueada, 6-9 mm de largo, con prominencias laterales triangulares en el ápice. Clinandrio algo prominente, entero, obcónico, margen irregularmente dentado. Antera ovoide, no ornamentada, 4-locular. Polinios 4, subiguales, semiovados, lateralmente comprimidos; caudículas suaves y granulosas, tan largas como los polinios; viscidio viscoso, translúcidoRostelo subapical, hendido. Nectario corto, penetra 1/4 del ovario, no ornamentado. Cápsula no vista.

Epiphytic, caespitose herb. Stems reed-like, compact in apparence, terete, straight. Leaves 4-8, elliptic, acute. Inflorescence terminal, flowers only once, sessile. Flowers 4-6, simultaneous, resupinate, bright green. Sepals subcoriaceous, spreading, glabrous, free. Dorsal sepal elliptic, acute to rounded, margins entire, revolute. Lateral sepals obliquely elliptic, apex acute, margins entire, revolute. Petals membranaceous, oblanceolate, acute to rounded, margins entire, spreading. Lip united to the column, bilobed, bicallose, calli short, wide, divergent, base deeply cordate, apex deeply emarginate, margins irregularly crenulate; lobes subovate, aometimes notched at the margin such that the lip appears 4-lobed. Column slightly arcuate, with a triangular process at each side of the apex. Clinandrium short, obconical, entire, margin irregularly dentate. Anther ovoid, 4-celled. Pollinia 4, semiovate, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent. Rostellum subapical, slit. Nectary short, penetrating 1/4 of the ovary.

OTHER SPECIMENS: CUBA: Hno. Alain 3857, HAC! (illustration voucher, plant.) Bisse et al. 47328, HAJB! Hágsater 10517, AMO! López Figueiras 1463, HAJB! Maxon 3947, US! Shafer 8661, AMES! 8463, AMES! JAMAICA: Brenes s.n., AMES! Harris 10498, AMES! Stern sub Hágsater 9234, AMO!

DISTRIBUTION AND ECOLOGY: Known from south-eastern Cuba and Jamaica. Epiphyte in rain forest, from 300 to 1200 m altitude. Flowering in January.

RECOGNITION: This species is a member of the E. difforme Jacq. complex, and can be recognized by the compact apparence of the terete stems, the bilobed lip with the lobes subovate and sometimes notched at the margin, giving the impression of a 4-lobed lip, two short, wide, divergent calli, margins irregularly crenulate, deeply cordate base and emarginate apex forming a wide sinus, column arcuate, with a triangular prominence at each side of the apex, and clinandrium somewhat prominent, entire, obconical, irregulary dentate. Epidendrum floridense Hágsater differs in the larger plants, entire lip, and an obtuse tooth at each side of the apex of the straight column. Epidendrum boricuarum Hágsater & L. Sánchez has larger plants, somewhat laterally compressed stems, 3-lobed, emarginate lip with small drops of nectar, and calli narrow, not divergent. Epidendrum umbellatum Sw., distributed in south-eastern Cuba at 1200 m altitude, has large, vigorous plants, somewhat compressed stems, narrowly obovate petals, 3-lobed lip, and not divergent calli.



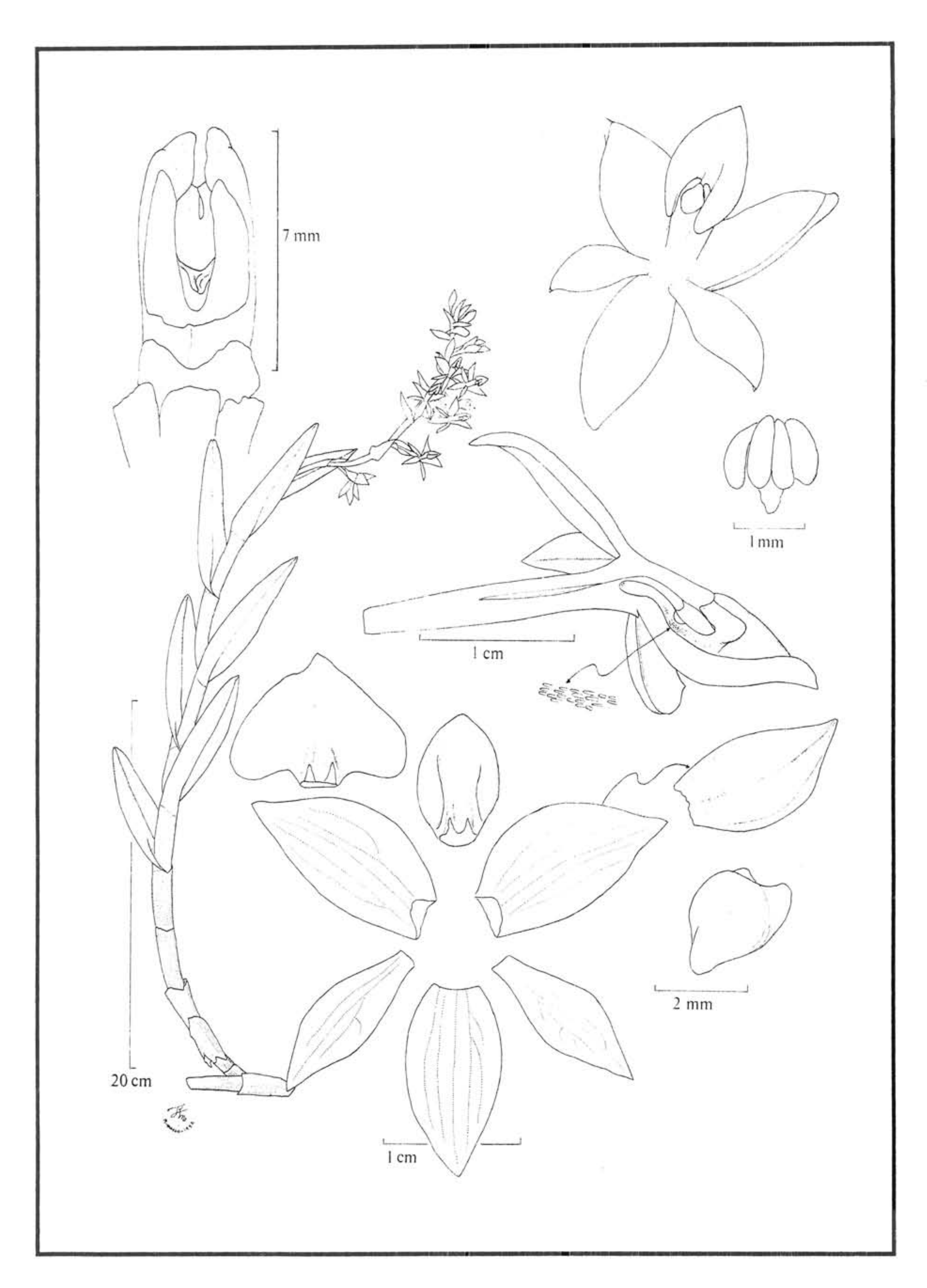
CONSERVATION STATUS: Probably not threatened. This species seems to be locally widespread and common in south-eastern Cuba, though it is poorly represented in herbaria.

ETYMOLOGY: The epithet orientale refers to the distribution of the species in the Provincia de Oriente, in eastern Cuba.

Authors: E. Hágsater & M. A. Díaz Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM ORTHOPHYLLUM Hágsater & Dodson **Plate 168**

Text on the reverse side

EPIDENDRUM ORTHOPHYLLUM Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Azuay/Morona-Santiago: Mule track Sevilla de Oro-Méndez at pass and adjacent slopes (Páramo de Castillo), 2°28'S 78°36'W, 3250-3500 m, 16 September 1976, *B. Oellgaard & H. Balslev 9570*, NY! (illustration voucher.) Isotype: AAU!

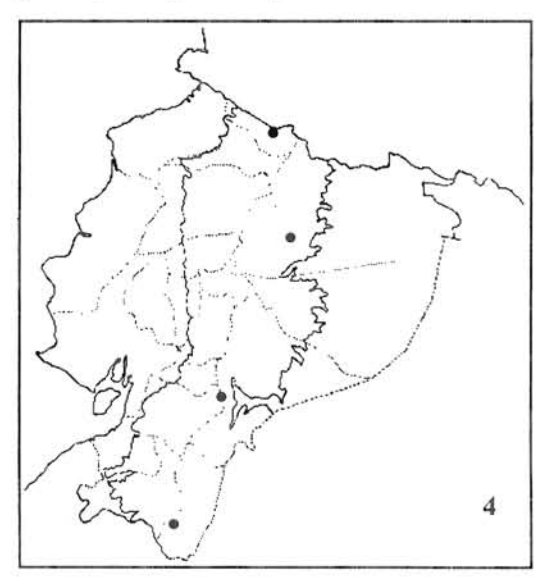
Epidendro macrostachyo Lindl. simile, sed differt foliis ascendentibus, petalis rhombeis, labello late triangulari.

Hierba terrestre o litófita, ramificada, 50-100 cm de alto. **Raíces** carnosas, de la base del tallo principal, 2-4 mm de grosor. **Tallos** erectos, ramificados cuando maduros, tipo caña, 25-60 x 0.8 mm, las ramas 14-20 x 0.5-0.7 mm. **Hojas** distribuidas a lo largo de todo el tallo, característicamente ascendentes, casi paralelas al tallo, las basales caedizas; vaina tubular, finamente rugosa, hasta 5 cm de largo; lámina elíptico-lanceolada, aguda, márgenes apicales finamente erosos, las del tallo principal 9-17 x 2.8-4.5 cm, las de las ramas 5-10 x 2-3.3 cm. **Inflorescencia** terminal, del tallo maduro o de las ramas, florece una sola vez, racemosa, erecta, ca. 20 cm de largo; pedúnculo sin espata, en ocasiones con una bráctea foliosa en la base. **Brácteas florales** prominentes, más largas que el ovario, progresivamente más cortas, abiertas, triangulares, 7-23 mm de largo. **Flores** numerosas, no resupinadas, sucesivas, aunque la mitad puede estar abierta al mismo tiempo, carnosas, con pocos cristales al secarse o fijarse en FAA; color amarillo-verdoso más o menos teñido de rojizo. **Ovario** no inflado, no ornamentado, 18 mm de largo. **Sépalo dorsal** reflexo, ovado, agudo, carnoso, glabro, 12 x 7.5 mm. **Sépalos laterales** entreabiertos, oblicuamente ovados, agudos, carnosos, glabros, con una quilla dorsal baja, roma, 14 x 7.5 mm. **Pétalos** reflexos, rómbicos, agudos, carnosos, sulcados dorsalmente, 12.5 x 4.5 mm. **Labelo** unido a la columna, entero, ampliamente triangular, obtuso, carnoso, no se puede extender una vez rehidratado sin romperse, sulcado dorsalmente, ecalloso, con dos quillas basales, bajas, la base ligeramente cordada, en posición natural los lados abrazando el ápice de la columna, 9 x 12 mm. **Columna** recta, gruesa, 7 mm de largo, con un diente grueso, en ángulo recto, a cada lado del ápice. **Clinandrio** obsoleto, entero. **Antera** subovoide, aguda, carnosa, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas suaves y granulosas. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/4 del largo de la cavidad estigmática. **Nectario** poco profundo, apenas penetrando hasta el perianto, ornamentado con papilas alargadas frente a la cavidad estigmática, reclinadas hacia el interior. **Cápsula** no vista.

Terrestrial or lithophytic, branching **herb**. **Roots** fleshy, from the base of the main stem. **Stems** reed-like, erect, branching when mature. **Leaves** distributed throughout the stems, the lower ones shedding the blade early; sheath finely rugose; blade characteristically ascending, almost parallel to the stem, elliptic-lanceolate, margins finely erose, those of the main stem larger than those of the branches. **Inflorescence** terminal, from the main stem or from the branches, racemose, erect, without spathe, occasionally with a basal, foliose bract. **Floral bracts** prominent, longer than the ovary and gradually shorter, wide, triangular. **Flowers** numerous, non-resupinate, successive, although about one half of them may be open at the same time, fleshy, yellow-green, more or less tinged with reddish. **Ovary** not inflated, not ornamented. **Dorsal sepal** reflexed, ovate, acute, fleshy. **Lateral sepals** partly open, ovate, oblique, acute, with a low dorsal keel, fleshy. **Pétals** reflexed, rhombic, acute, fleshy. **Lip** united to the column, entire, broadly triangular, acute, fleshy, with two fleshy, low keels at the base, dorsally sulcate, base shallowly cordate, partially embracing the apex of the column in natural position. **Column** straight, thick, with a thick tooth at each side at the apex. **Clinandrium** obsolete, entire. **Antera** subovoid, acute, fleshy, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicules soft and granulose. **Rostellum** subapical, slit. **Lateral stigma lobes** small, 1/4 the length of the stigmatic cavity. **Nectary** shallow, not penetrating beyond the perianth, ornamented with elongated papillae sloping inwards in front of the stigmatic cavity.

OTHER SPECIMENS: ECUADOR: Azuay: Camp 4845, AMES! Napo: Madison 6825, AMES! SEL!

DISTRIBUTION AND ECOLOGY: Known from both the Eastern and Western Andean Cordillera in Ecuador. Terrestrial or lithophyte, in montane cloud forest at about 2600-3000 m altitude. Flowering recorded in August, September and April, probably throughout the year.



RECOGNITION: Epidendrum orthophyllum is a member of the E. macrostachyum Lindl. group, and can be recognized by the ascending leaves almost parallel to the stem, the rhombic, acute, 2-veined petals, and the widely triangular lip. Epidendrum oxycalyx Hágsater & Dodson has narrower, acuminate floral segments. Epidendrum palaciosii Hágsater & Dodson has flowers about 1/3 the size, the sepals muriculate outside, without keels. Epidendrum obovatipetalum Hágsater & Dodson has wider leaves, rounded floral segments and oblanceolate petals.

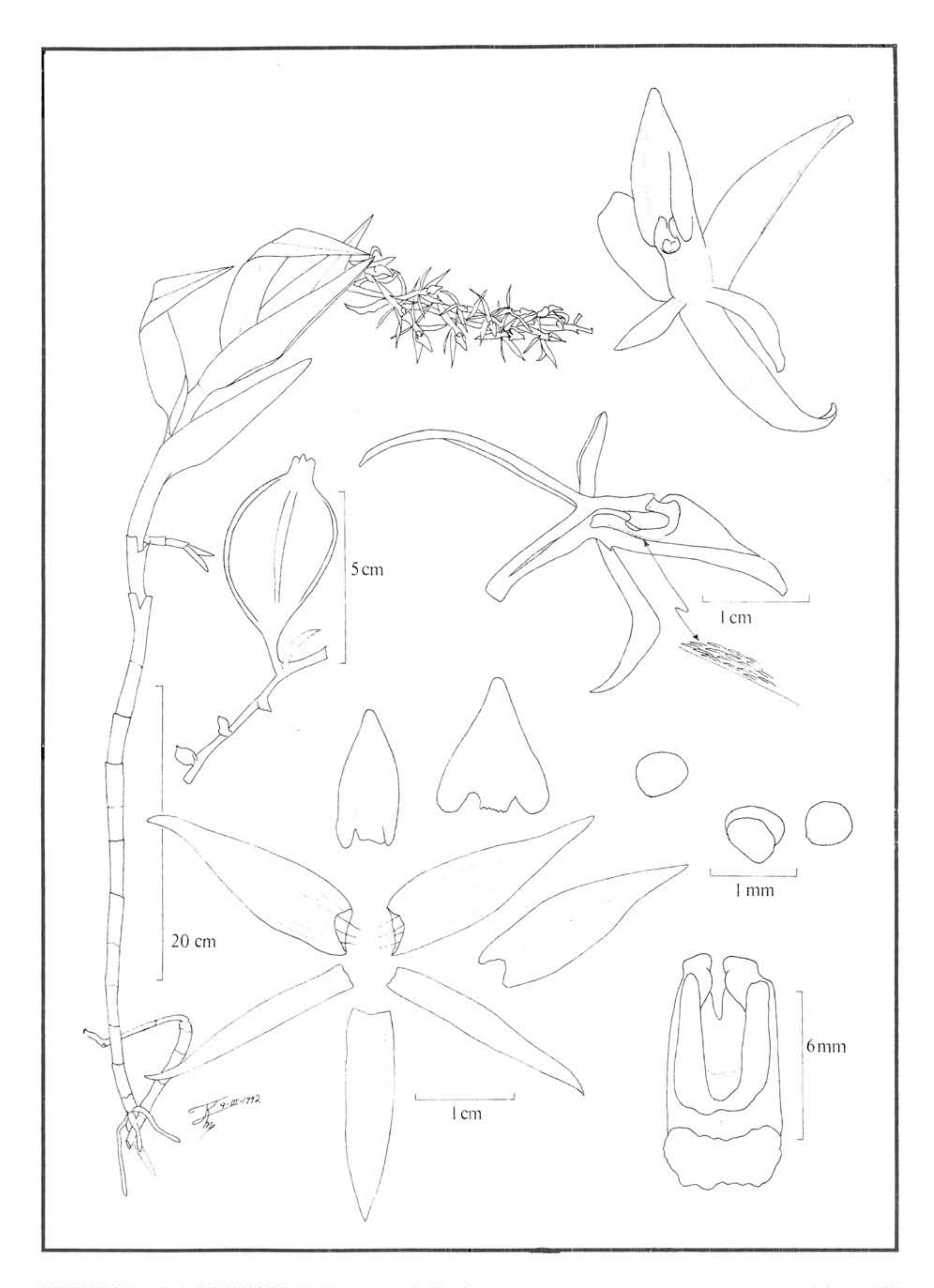
CONSERVATION STATUS: Probably not threatened, as it grows at high altitude in wet, steep areas which are not being cut down for agriculture or any other use.

ETYMOLOGY: From the Greek ortho, straight, and phyllum, leaf, in reference to the leaves, which are ascending and subparallel to the stem, making the recognition of this species easy when compared with other members of the E. macrostachyum group.

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EPIDENDRUM OXYCALYX Hágsater & Dodson

Text on the reverse side

EPIDENDRUM OXYCALYX Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Pichincha: km 40 carretera vieja Quito-Santo Domingo, 2670 m, 3 mayo 1985, *C. H. Dodson 15827, B. Stein & L. McCook,* RPSC! (illustration voucher.) Isotypes: AMES! NY!

Epidendro macrostachyo Lindl. simile, sed sepalis acuminatis et floribus majoribus differt.

Hierba terrestre, cespitosa, 50-200 cm de alto. **Raíces** carnosas, de la base del tallo principal, 2-4 mm de grosor. **Tallos** erectos, ramificados cuando maduros, tipo caña, 25-60 x 0.8 cm, las ramas 14-20 x 0.5-0.7 cm. **Hojas** distribuidas a lo largo de todo el tallo, las basales caedizas; vaina tubular, finamente rugosa, hasta 5 cm de largo; lámina elíptico-lanceolada, aguda, márgenes apicales finamente erosos; las del tallo principal 9-17 x 2.8-4.5 cm, las de las ramas 5-10 x 1.2-3.3 cm. **Inflorescencia** terminal, del tallo maduro o de las ramas, florece una sola vez, racemosa o en ocasiones paniculada, con 1-2 ramificaciones pequeñas cerca de la base, generalmente erecta, 8-23 cm de largo, sin espata; bráctea basal del pedúnculo en ocasiones foliácea. **Brácteas florales** prominentes, más largas que el ovario, progresivamente más cortas, extendidas, triangular-ovadas, algo carinadas hacia el ápice agudo, márgenes ondulados, finamente erosos, 7-23 mm de largo. **Flores** numerosas, no resupinadas, simultáneas, aunque la mitad apical puede estar cerrada cuando abren las basales, carnosas, con pocos cristales al secarse o fijarse en FAA, color pardo-rojo-amarillento, pardo o verdoso. **Ovario** no inflado, no ornamentado, 9-13 mm de largo. **Sépalo dorsal** reflexo, lanceolado, acuminado, carnoso, glabro, 15-21 x 5 mm. **Sépalos laterales** entreabiertos, ovado-lanceolados, oblicuos, acuminados, con una quilla dorsal, carnoso, glabro, 15-23 x 6-7 mm. **Pétalos** reflexos, linear-lanceolados, acuminados, carnosos, 11-16 x 1-1.2 mm. **Labelo** unido a la columna, entero, triangular, profundamente cordado, agudo, carnoso, se puede extender una vez rehidratado, ecalloso, sin quillas, dorsalmente sulcado, en posición natural los lados abrazando el ápice de la columna, 9-12 x 9-12 mm. **Columna** recta, gruesa, 6-8 mm de largo, el ápice con un diente grueso y algo uncinado a cada lado. **Clinandrio** obsoleto, entero. **Antera** ovoide, aguda, carnosa, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, caudículas suaves y granulosas. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/4 del largo de la cavidad estigmática. **Nectario** poco profundo, apenas penetrando hasta el perianto, ornamentado con papilas alargadas frente al estigma, reclinadas hacia el interior. **Cápsula** elipsoide, 45 x 25 mm, con pedicelo corto de 6-12 mm de largo.

Caespitose herb. **Stems** erect, branching with age. **Leaves** elliptic-lanceolate, acute, apical margins finely erose, those of the main stem larger. **Inflorescence** terminal, flowers only once, racemose or occasionally with 1-2 basal branches. **Floral bracts** longer than ovary, progressively shorter, spreading, triangular-ovate, margins undulate, finely erose. **Flowers** non-resupinate, simultaneous, yellowish brown-red, brown or greenish. **Sepals** ovate-lanceolate, acuminate, fleshy. **Petals** reflexed, linear-lanceolate, acuminate. **Lip** united to the column, entire, triangular, deeply cordate, ecallose, dorsally sulcate. **Column** straight, thick, with an apical tooth on each side. **Anther** ovoid, acute, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose. **Rostellum** subapical, slit. **Nectary** not penetrating beyond the perianth, ornamented with elongated papillae sloping inwards in front of the stigmatic cavity. **Capsule** ellipsoid, with a short pedicel.

OTHER SPECIMENS: COLOMBIA: Putumayo: Luer et al. 3100, SEL! Ospina & Idrobo 127, AMES! **ECUADOR: Azuay:** Dodson et al. 10494, SEL! **Cañar:** Harling & Andersson 22723, AMES! GB! **Carchí:** Hágsater et al. 10539, AMO! 10622, AMO! Hirtz et al. 5631, RPSC! Løjtnant et al. 12491, AAU! Luer et al. 2643, SEL! **Morona-Santiago:** Hágsater et al. 9625, AMES! AMO! QCNE! SEL! Molau et al. 2932, GB! **Napo:** Cazalet & Pennington 5549, AMES! B, BM, F, K! MICH, NY! US! Holm-Nielsen et al. 17396, AAU! NY! QCA! 17397, AAU! NY! 17694, AAU! NY! Løjtnant & Molau 12914, AAU! GB! 13041, AAU! GB! 13043, AAU! GB! Madison 6821, SEL! **Pichincha:** Dodson et al. 10705, MO! SEL! US! Hirtz et al. 2429, SEL(x2)! **PERU: Pasco:** Foster et al. 10512, SEL!

DISTRIBUTION AND ECOLOGY: Colombia, Ecuador and Peru. Terrestrial or lithophyte in montane forest and cloud forest, from 2600 to 3000 m altitude, on both the Eastern and Western Andes and often sympatric with other species of the E. macrostachyum Lindl. group.



RECOGNITION: Epidendrum oxycalyx is closely related to E. macrostachyum, but is distinguished by the acuminate, not obtuse, floral segments and the triangular, deeply cordate lip; it also has larger, acute leaves and sometimes a paniculate inflorescence; the ornamentation in the nectarium, in front of the stigmatic cavity, consists of elongated papillae which are facing inwards. E. palaciosii Hágsater & Dodson has flowers about one-third the size and sepals muriculate outside, not keeled. E. dermatanthum Kraenzl. has petals nearly as wide as the sepals.

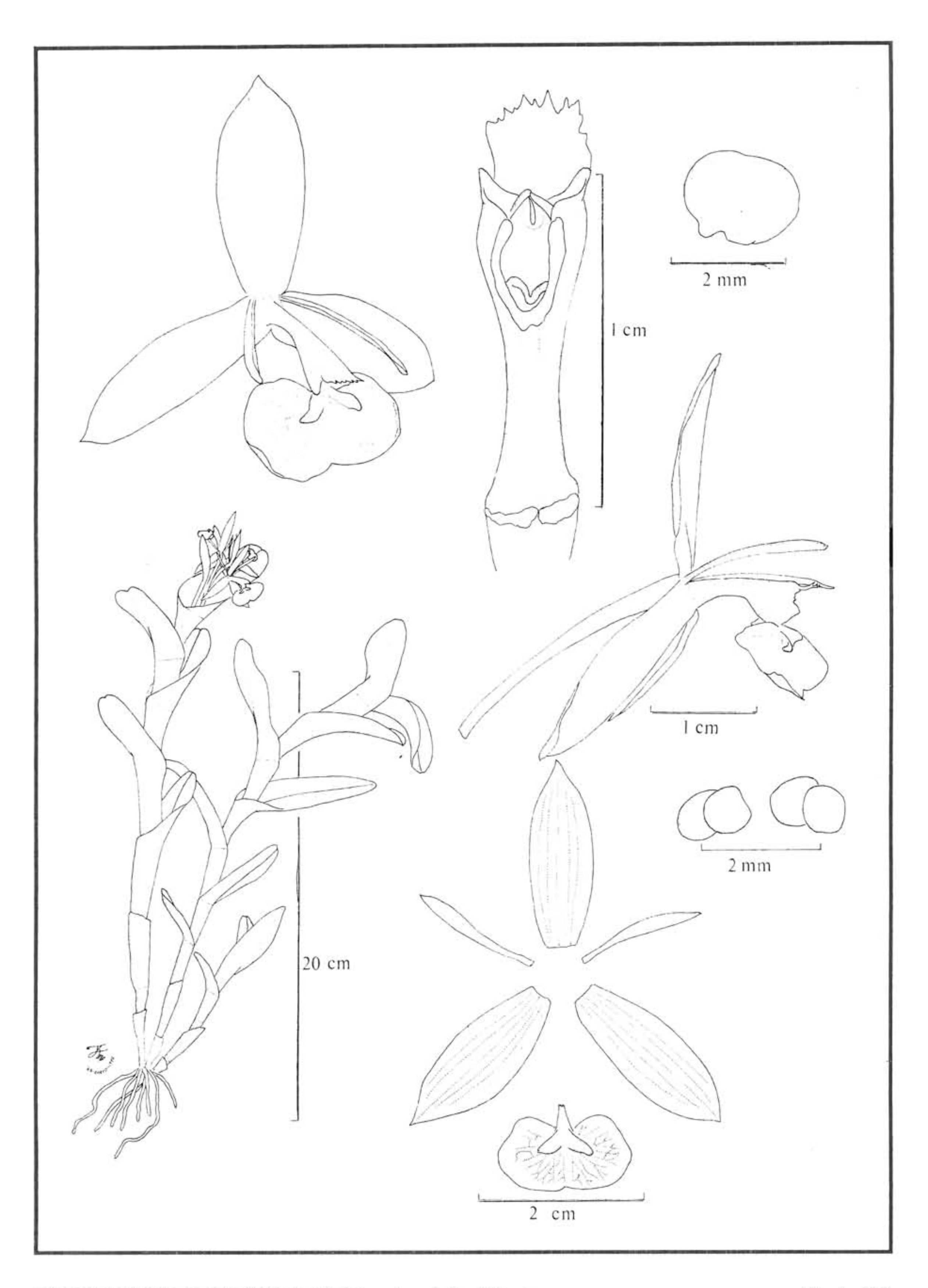
CONSERVATION STATUS: Probably not threatened, as it is widespread and grows at high altitudes in wet, steep areas which are not being cut down for agriculture or any other use.

ETYMOLOGY: From the Greek oxy, pointed, and calyx, the outer whorl of the flower, in reference to the acuminate sepals, which makes recognition of this species easy when compared to others of the E. macrostachyum group.

Authors: E. Hágsater & C. H. Dodson   Ilustrator: R. Jiménez   Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM PACHYCERAS Hágsater & L. Sánchez

Text on the reverse side

Plate 170

EPIDENDRUM PACHYCERAS Hágsater *et* L. Sánchez, *sp. nov.*

Holotype: COSTA RICA: Slope of Cerro de Carpintera, west of Cartago, ca. 1800 m, 22 Aug 1940, *M.A. Chrysler & W.E. Roever 5529*, AMES! (illustration voucher.)

Epidendro apagano Mansf. simile, sed differt foliis longioribus, floribus fragrantissimis, labello duobus callis cornuatis projectis instructo, columna prominentiis lateralibus apicalis petaloideis munita, clinandrio prominentissimo, margine dentato fimbriato.

Hierba epífita, cespitosa, 14-35 cm de alto incluyendo la inflorescencia. **Raíces** basales, carnosas, 1.5 mm de grosor. **Tallo** sencillo, tipo caña, fuertemente comprimido lateralmente, flexuoso, 7-30 cm de largo. **Hojas** 2-7, equidistantes a lo largo del tallo; vaina lateralmente comprimida, lisa; lámina coriácea, elíptica, lisa, ápice bilobado, márgenes enteros, extendidos, color verde, 2-9 x 1-4 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, sésil. **Bráctea floral** mucho más corta que el ovario, triangular, 3-7 mm de largo. **Flores** 1-3, simultáneas, resupinadas, verdes, con fragancia nocturna intensa. **Ovario** no inflado, terete, no ornamentado, 28-45 mm de largo. **Sépalos** glabros, libres, subcoriáceos, extendidos, elípticos, agudos, márgenes revolutos, 5-nervados, 18-27 x 6-8 mm. **Pétalos** membranáceos, linear-elípticos, agudos, márgenes extendidos, 1-nervados, 15-23 x 1-2 mm. **Labelo** unido a la columna, entero, reniforme, coriáceo, retuso, bicalloso, los callos gruesos, divergentes, agudos, proyectados como dos cuernos rígidos, margen eroso, 8-11 x 15-20 mm. **Columna** recta, 12-14 mm de largo incluyendo el clinandrio, con prominencias apicales laterales petaloides, obtusas. **Clinandrio** muy prominente, recto, entero, margen dentado-fimbriado. **Antera** subesférica, con una concavidad en el ápice, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, más cortas que los polinios; viscidio viscoso, translúcido. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** prominentes. **Nectario** profundo, penetrando la mitad del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stems** reed-like, strongly laterally compressed, flexuous. **Leaves** 2-7, elliptic, apex bilobed, coriaceous. **Inflorescence** terminal, flowers only once, sessile. **Flowers** 1-3, simultaneous, resupinate, green, with strong nocturnal fragrance. **Sepals** spreading, free, subcoriaceous, elliptic, acute, margins entire, revolute. **Petals** spreading, linear-elliptic, acute, margins entire, spreading. **Lip** united to the column, entire, reniform, retuse, bicallose, the calli divergent, thick, prominent, acute. **Column** straight, with two lateral-apical, obtuse, petaloid processes. **Clinandrium** very prominent, straight, entire, margin dentate-fimbriate. **Anther** subspheric, with a concavity at the apex. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent. **Rostellum** apical, slit. **Lateral stigma lobes** prominent. **Nectary** deep, penetrating 1/2 of the ovary.

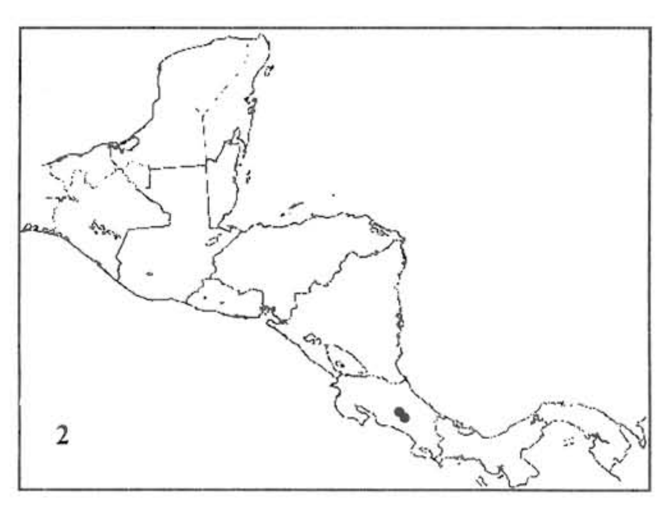
OTHER SPECIMENS: COSTA RICA: Brade 313, AMES! CR! Cartago: Dodge & Thomas 4787, AMES! Luer et al. 4156, SEL! San José-Cartago: Utley 2955, CR! F! San José: Todzia 474, CR!

DISTRIBUTION AND ECOLOGY: Known only from Costa Rica. Epiphyte in cloud forest, from 1320 to 2500 m altitude. Flowering throughout the year.

RECOGNITION: Epidendrum pachyceras is a member of the E. difforme Jacq. complex, and can be recognized by the strongly laterally compressed stems, entire, reniform, retuse lip, calli divergent, thick, prominent, acute, column with two lateral-apical, obtuse petaloid processes, and clinandrium very prominent with margin dentate-fimbriate. It is similar to E. apaganum Mansf., from Ecuador and Peru, which has obtuse lip, column without lateral-apical processes, and smaller, subglobose calli.

CONSERVATION STATUS: Probably not threatened. This species is relatively frequent.

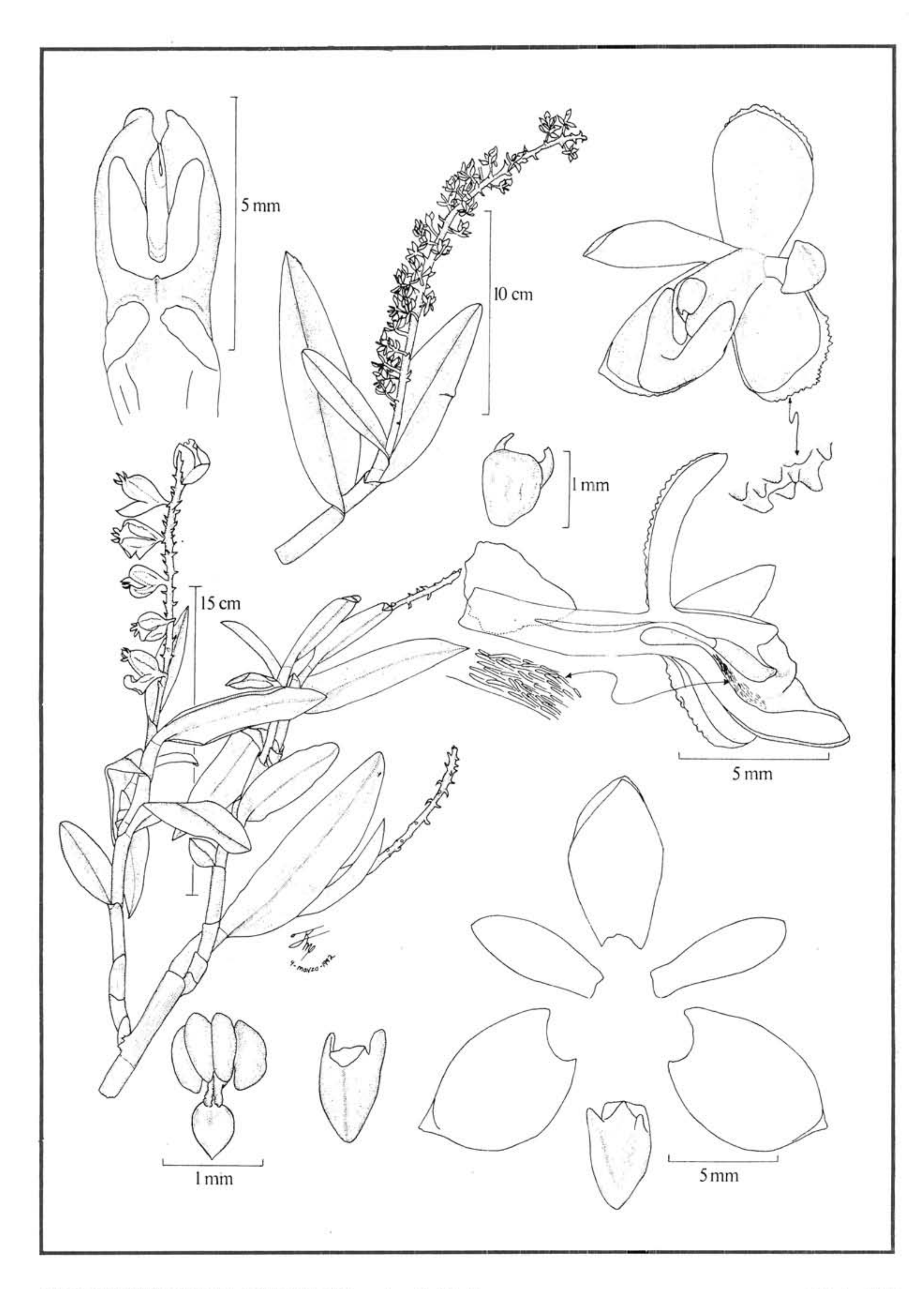
ETYMOLOGY: The epithet is derived from the Greek pachy, thick, and ceras, horn, in reference to the horn-like calli of the lip.



Authors: E. Hágsater & L. Sánchez Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM PALACIOSII Hágsater & Dodson

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EPIDENDRUM PALACIOSII Hágsater *et* Dodson, *sp. nov.*

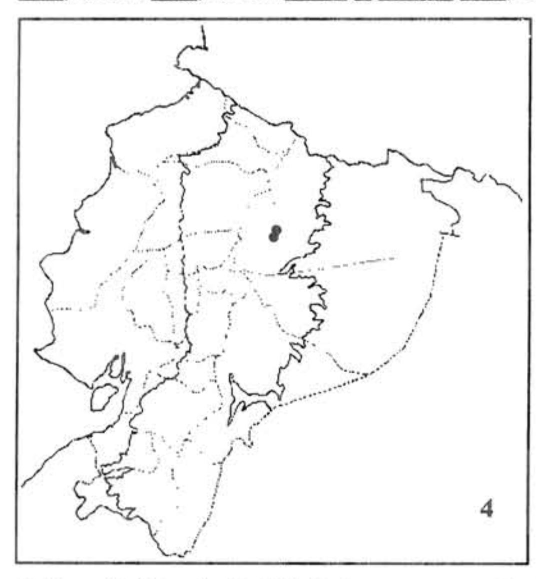
Holotype: ECUADOR: Prov. Napo; Cordillera del Guacamayo, km 139-140 Quito-Tena, en talud, 2120-2220 m, 8 marzo 1984, *A. Gentry, W. Palacios & J. Zaruma 14848*, RPSC! (illustration voucher.)

Epidendro macrostachyo Lindl. simile, sed differt bracteis quam ovario multo brevioribus, sepalis dorsaliter muriculatis, labello ceraceo, cordiformi, et nectario pilis depressis vestito.

Hierba terrestre, ramificada (un solo tallo en la base), ca. 150 cm de alto. **Raíces** carnosas, originadas en la base del tallo principal. **Tallos** erectos, teretes, ramificados cuando maduros, tipo caña, los nuevos tallos son producidos arriba de un nudo subapical del tallo anterior, las ramas más cortas y delgadas que el tallo principal, el principal 9 mm de grosor, las ramas de 5-7 mm de grosor. **Hojas** distribuidas a lo largo del tallo; vaina tubular, verrucosa, hasta 4 cm de largo; lámina elíptico-lanceolada, margen apical finamente dentado, ápice agudo, algo retuso, las del tallo principal ca. 10-12 x 3 cm, las de las ramas 5-9 x 2-3 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, erecta, 9-20 cm de largo; pedúnculo sin espata, sin bráctea basal, pero la hoja apical del tallo más pequeña que las demás, 5-6 x 1.2-1.6 cm. **Brácteas florales** pequeñas, mucho más cortas que el ovario, amplias, ovadas, agudas, cuculadas, 2.5-4 mm de largo. **Ovario** grueso, no inflado, no ornamentado, 6-7 mm de largo. **Flores** numerosas, no resupinadas, simultáneas, carnosas, cerosas, color gris, con muchos cristales evidentes al secarse o fijarse en FAA. **Sépalo dorsal** extendido, obovado-elíptico, redondeado, carnoso, dorsalmente muriculado, 7-8 x 4.5 mm. **Sépalos laterales** entreabiertos, ovado-suborbiculares, oblicuos, agudos, dorsalmente muriculados, sin quilla dorsal, carnosos, 8 x 5.5 mm. **Pétalos** extendidos, ligeramente incurvados, oblanceolados, redondeados, dorsalmente sulcados, carnosos, 7 x 3.5 mm. **Labelo** unido a la columna, entero, cordiforme, carnoso, muy ceroso, no se puede extender aún rehidratado, ecalloso, sin quillas, dorsalmente sulcado, en posición natural los lados abrazando parcialmente el ápice de la columna, 4 x 3 mm. **Columna** recta, gruesa, 5 mm de largo, ápice redondeado. **Clinandrio** obsoleto, entero. **Antera** ovoide, truncada, carnosa, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas suaves y granulosas, algo más largas que los polinios,; viscidio prominente, semilíquido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/4 del largo de la cavidad estigmática. **Nectario** poco profundo, apenas penetrando detrás del perianto, formando una cavidad más amplia al nivel del perianto, con pelos depresos y alargados en la superficie inferior frente a la cavidad estigmática, dirigidos hacia el interior. **Cápsula** globular, con pedicelo corto y delgado.

Terrestrial, branching **herb**. **Roots** fleshy, from the base of main stem. **Stems** erect, terete, branching when mature, the branches smaller and thiner than the main stem. **Leaves** distributed throughout the stem; sheath tubular, verrucose; blade elliptic-lanceolate, acute, margin finely dentate. **Inflorescence** terminal, flowers only once, racemose, erect, without spathe. **Floral bracts** small, much shorter than the ovary, spreading, acute, cucullate. **Ovary** thick, not inflated. **Flowers** numerous, non-resupinate, simultaneous, fleshy, waxy, grey, with many crystals evident when dried or fixed in FAA. **Dorsal sepal** spreading, obovate-elliptic, rounded, fleshy, dorsally muriculate. **Lateral sepals** partly open, ovate-suborbicular, oblique, acute, dorsally muriculate, fleshy, without any dorsal keel. **Petals** spreading, slightly incurved, oblanceolate, rounded, dorsally sulcate, fleshy. **Lip** united to the column, entire, cordiform, fleshy, very waxy, ecallose, without keels, dorsally sulcate, in natural position partly embracing the column, it can not be spread flat. **Column** straight, thick, apex rounded. **Clinandrium** obsolete, entire. **Anther** ovoid, truncate, fleshy, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, somewhat longer than the pollinia; viscidium prominent, semiliquid. **Rostellum** subapical, slit. **Lateral stigma lobes** about 1/4 of the length of the stigmatic cavity. **Nectary** shallow, barely penetrating beyond the perianth, forming a broader cavity at the level of the perianth, the lower surface with long, depressed hairs in front of the stigmatic cavity, pointing inwards. **Capsule** globular, with a short, thin pedicel.

OTHER SPECIMENS: ECUADOR: Napo: Hágsater & Dodson 8841, AMO! 8844, AMO! QCNE! RPSC! 8846, AMO! Hirtz 1772, RPSC! 1865, RPSC! Molau & Eriksen 2126, GB!



DISTRIBUTION AND ECOLOGY: Known only from the Cordillera del Guacamayo, on the Amazonian side of the Ecuadorean Andes. Terrestrial on embankments in disturbed areas, at around 2000-2200 m altitude. Flowering throughout the year.

RECOGNITION: Epidendrum palaciosii is related to E. macrostachyum Lindl., but is distinguished by the floral bracts much shorter than the respective ovaries, the muriculate sepals 7-8 mm long, the very waxy, cordiform lip which can not be spread flatly, and the long, depressed hairs on the lower surface of the nectary, in front of the stigmatic cavity. E. macrostachyum has flowers about twice the size, glabrous sepals, the lateral ones keeled, and the entire surface of the nectary papillose. E. oxycalyx Hágsater & Dodson has larger, acute leaves, flowers with longer, acuminate segments and inflorescence often paniculate. E. alsum Ridl. ex Oliver has larger flowers and more lax inflorescence.

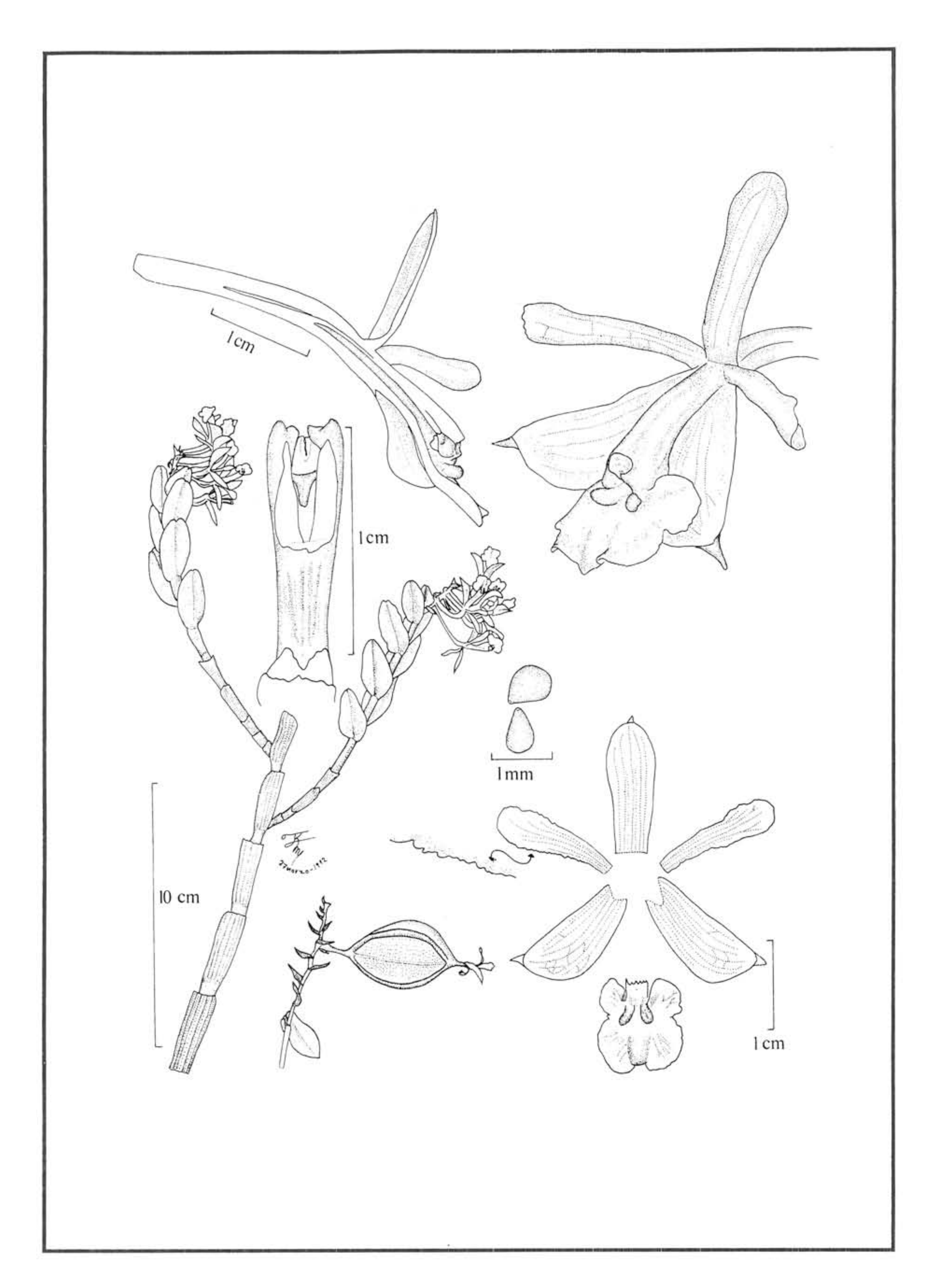
CONSERVATION STATUS: Not threatened. The species is a successful colonizer of disturbed areas.

ETYMOLOGY: Dedicated to Walter Palacios, Ecuadorean collector specialized in the family Meliaceae, currently Director of Operations of the Herbarium of the Museo Ecuatoriano de Ciencias naturales (QCNE).

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM PANDURATUM Hágsater & Dodson

Plate 172

Text on the reverse side

EPIDENDRUM PANDURATUM Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Loja: Road Cuenca to Loja at the pass between Saraguro and Loja, 3100 m, 23 July 1985, *C. Dodson & A. Embree 16012*, RPSC! (illustration voucher.)

Epidendro aurorae Dodson & D.E. Benn. simile, sed labelo panduriformi, emarginato, dimidio apically latitudine basale aequanti sed longiore, petalis spatulatis, rotundatis, marginibus erosis.

Hierba terrestre o litófita, erecta, ramificada arriba en plantas maduras. **Raíces** no vistas. **Tallo** erecto, hasta 2 m de alto, ca. 8 mm de grosor, ramificado arriba; ramas cortas, 13-14 cm de largo, ca. 5 mm de grosor. **Hojas** numerosas, distribuidas a lo largo de los tallos, las del tallo principal caedizas, ausentes cuando florecen las ramas; vaina tubular, rugosa, las del tallo principal 23-30 mm de largo, las de las ramas 10-20 mm de largo; lámina ovada a elíptica, redondeada, retusa, subcoriácea, margen apical finamente denticulado, las de las ramas 22-31 x 11-14 mm, las del tallo principal probablemente mayores. **Inflorescencia** terminal, de las ramas y probablemente del tallo principal, florece una sola vez, 3-6 cm de largo, erecta, racemosa, sin espata. **Brácteas florales** triangulares, acuminadas, mucho más cortas que los ovarios, 3-10 mm de largo. **Flores** 6-12, simultáneas, aparentemente no resupinadas, de color "verde rosado". **Ovario** grueso, no inflado, algo arqueado en el 1/4 apical, 18-24 mm de largo. **Sépalo dorsal** oblanceolado, redondeado, apiculado, carnoso, 5-nervado, 14-15 x 5-6 mm. **Sépalos laterales** obovados, falcados, obtusos, apiculados, carnosos, 7-nervados, 15-16 x 7 mm. **Pétalos** espatulados, redondeados, márgenes erosos, 3-nervados, con dos nervaduras secundarias, 15 x 5 mm. **Labelo** unido a la columna, entero, panduriforme, base cordada, ápice emarginado, bicalloso, 10 x 9.5 mm; parte apical más larga que la basal, ambas de aproximadamente el mismo ancho, márgenes erosos. **Columna** recta, gruesa, 12-13 mm de largo. **Clinandrio** obsoleto, entero. **Antera** no vista. **Polinios** 4, subobovoides, lateralmente comprimidos; caudículas aparentemente muy cortas. **Nectario** poco profundo, penetrando 1/4 del ovario, no ornamentado, no inflado. **Cápsula** elipsoide, 50 x 30 mm, con pedicelo de 12 mm de largo, el ápice provisto de un pico de 5 mm de largo.

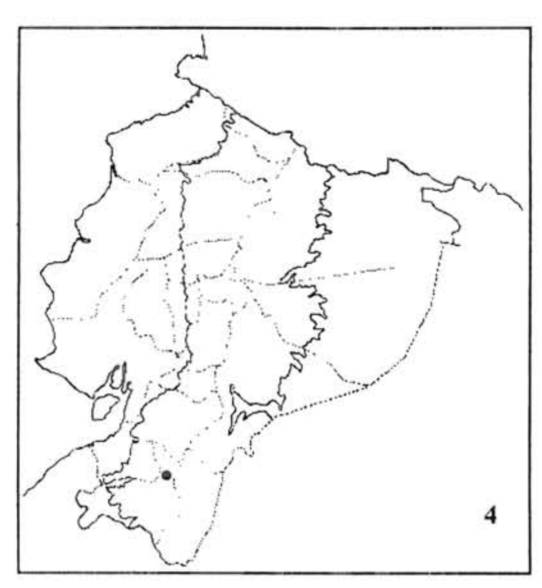
Terrestrial or lithophytic, erect herb up to 2 m tall. **Stem** branching near the apex, branches short. **Leaves** distributed throughout the stems, ovate to elliptic, rounded, retuse, apical margin finely denticulate. **Inflorescence** terminal, from the branches and probably the main stem, flowers only once, racemose, erect. **Floral bracts** triangular, acuminate, much shorter than the ovary. **Flowers** simultaneous, apparently non-resupinate, "pinkish green". **Ovary** thick, arcuate near the apex. **Dorsal sepal** oblanceolate, rounded, apiculate, 5-veined. **Lateral sepals** obovate, falcate, obtuse, apiculate, 7-veined. **Petals** spatulate, rounded, margins erose, 3-veined with two secondary veins. **Lip** united to the column, entire, panduriform, bicallose, base cordate, apex emarginate, apical part longer than the basal but approximately the same width. **Column** straight, thick. **Clinandrium** obsolete, entire. **Nectary** penetrating about 1/4 of the ovary. **Capsule** ellipsoid, with short pedicel and apical beak.

DISTRIBUTION AND ECOLOGY: Known only from the type, growing on embankments at 3100 m altitude, near the páramo. Flowering in July.

RECOGNITION: Epidendrum panduratum belongs to the E. aurorae Dodson & D.E. Benn. group, which is characterized by the erect, reed-like stems with subapical branching, racemose inflorescence, compact, fleshy flowers and leaves ovate and rounded. E. panduratum has a panduriform lip, with the apical half longer but as wide as the basal half. The petals are spatulate, widely rounded and the whole margin is erose.

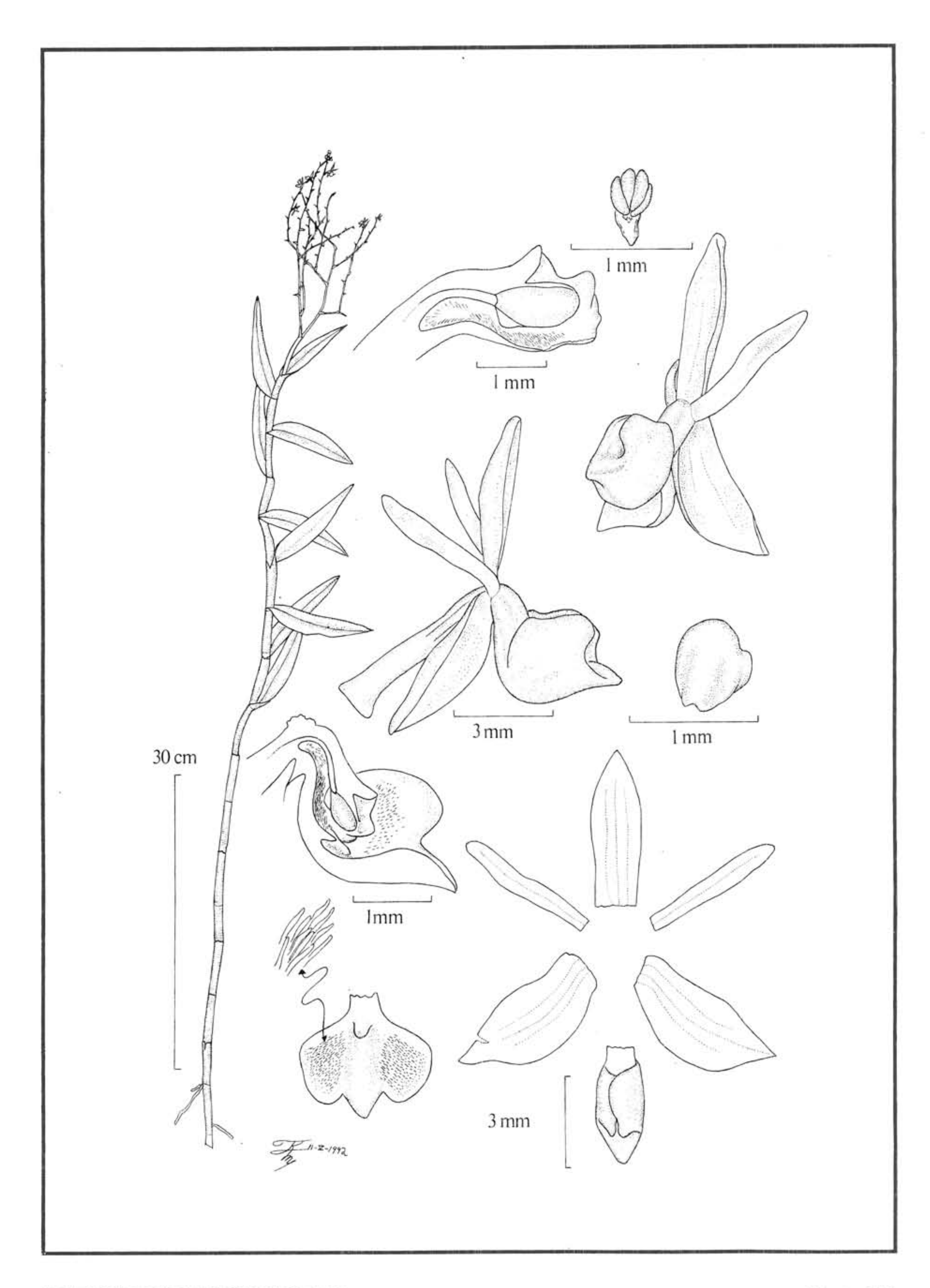
CONSERVATION STATUS: Unknown. Probably not threatened, as the high alpine passes where this species grow generally are of no use in agriculture or construction, and there is no collecting pressure.

ETYMOLOGY: The epithet is derived from the term pandurate, or guitar-shaped, in reference to the shape of the lip.



Authors: E. Hágsater & C.H. Dodson   Ilustrator: R. Jiménez   Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM PILCUENSE Hágsater

Text on the reverse side

Plate 173

EPIDENDRUM PILCUENSE Hágsater, *sp. nov.*

Holotype: COLOMBIA: Depto. Nariño: Mpio. Barbacoas; entre Junín y Barbacoas, vereda de Cuchirrabo, 1250 m, 4 agosto 1962, *L.E. Mora 2255*, US! (illustration voucher.)

Herba caespitosa, foliis obliquis vix dentatis; inflorescentia paniculata, floribus simultaneis; sepalum dorsale lineari-obovatum, lateralia elliptica; petala linearia, labellum unicallosum, carnosum, trilobatum, basi cuneato, lobis lateralibus oblique subquadratis, grandibus, profuse pilosis, lobo apicali parvo, triangulari; nectarium profuse pilosum.

Hierba cespitosa, erecta, ca. 120 cm de alto. Raíces no vistas. Tallos erectos, rectos, teretes, sencillos, 100 x 0.6 cm. **Hojas** distribuidas a lo largo del tallo; vainas tubulares, finamente rugulosas y estriadas, 30-60 x 5-8 mm; lámina lanceolada, aguda, ligeramente oblicua, margen escasamente dentado, 9-12 x 1.5-2 cm. **Inflorescencia** terminal en el tallo maduro, paniculada, erecta, 25 cm de largo, sin espata, con una bráctea basal ovada, acuminada, de 13 mm de largo, sin brácteas intermedias; raquis flexuoso, ramas espaciadas 20-36 mm, las ramas a su vez ramificadas. **Brácteas florales** ovadas, estrechamente agudas, amplexicaules en la base, perpendiculares al raquis, 2-3 x 2 mm. **Flores** simultáneas, sépalos y pétalos "blanco-amarillos con puntuaciones moradas, labelo amarillo ocre". **Ovario** filiforme, no dilatado, 5-6 mm de largo. **Sépalo dorsal** extendido, linear-oblanceolado, agudo, 3-nervado, 5 x 1.8 mm. **Sépalos laterales** reflexos, elípticos, algo falcados, agudos, 3-nervados, 5 x 2.4 mm. **Pétalos** lineares, redondeados, algo reflexos, 1-nervados, 5 x 0.8 mm. **Labelo** unido a la columna, carnoso, con un callo basal, sin carinas, al extenderse trilobado en el tercio apical, base cuneada, 3.5 x 4.5 mm; lóbulos laterales profusamente pilosos, oblicuamente subcuadrados, margen apical redondeado, en posición natural abrazando el ápice de la columna, los márgenes ligeramente sobrepuestos arriba; lóbulo medio pequeño, triangular, agudo. **Columna** deflexa en la base ca. 100°, el ápice totalmente oculto por los lóbulos laterales del labelo, 3 mm de largo. **Clinandrio** obsoleto, carnoso, entero. **Antera** subesférica, ápice emarginado. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas muy cortas, granulosas; viscidio semilíquido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños, de ca. 1/3 del largo de la cavidad estigmática. **Nectario** muy corto, sin penetrar más allá del perianto, profusamente piloso. **Cápsula** no vista.

Caespitose, erect herb. Stems erect, straight, terete. Leaves distributed throughout the stem; sheath tubular, finely rugulose and striate; blade narrowly lanceolate, acute, slightly oblique, margins scarcely dentate. **Inflorescence** terminal, from the mature stem, erect, paniculate, without a basal spathe; rachis flexuous, branches spaced, themselves branching. **Floral bracts** ovate, narrowly acute, amplexicaul at the base, perpendicular to the rachis. **Flowers** simultaneous, sepals and petals "yellowish-white with purple punctuation, lip ocher-yellow". **Ovary** filiform, not inflated. **Dorsal sepal** spreading, linear-oblanceolate, acute, 3-veined. **Lateral sepals** reflexed, elliptic, acute, somewhat falcate, 3-veined. **Petals** linear, rounded, somewhat reflexed, 1-veined. **Lip** united to the column, 3-lobed, fleshy, with a single basal callus, without keels, base cuneate, apex acute, when flattened 3-lobed in the apical third; lateral lobes obliquely subquadrate, profusely pilose, apical margin rounded, completely embracing the apex of the column, their margins overlapping above; midlobe small, triangular, acute. **Column** deflexed ca. 100° at the base, apex totally hidden by the embracing lip. **Clinandrium** fleshy, obsolete, entire. **Anther** subspherical, apex emarginate. **Pollinia** 4, obovoid, laterally compressed; caudicles very short, granulose; viscidium semiliquid. **Rostellum** slit. **Lateral stigma lobes** about 1/3 the length of the stigmatic cavity. **Nectary** very short, not penetrating beyond the perianth, profusely pilose.

OTHER SPECIMENS: COLOMBIA: Popayán: [Lehmann] B.T. 238, AMES! L! K! 239, K!

DISTRIBUTION AND ECOLOGY: Known only from Colombia, at about 1250 m altitude. Flowering in August.

RECOGNITION: Epidendrum pilcuense is recognized by the erect, caespitose stems, lanceolate, oblique leaves with margins sparsely denticulate, terminal, erect, much branching inflorescence, simultaneous flowers with the lip 3-lobed above the middle, with a single basal callus, subquadrate, pilose lateral lobes embracing the apex of the column, small, triangular, acute midlobe, and profusely pilose nectary. The flowers resemble those of E. guacamayense Hágsater & Dodson, which differs in the much branched stems, much narrower, grasslike leaves, successive flowers and reniform, glabrous lip. At first glance, the pressed specimen looks like a member of the E. paniculatum Ruiz & Pav. group, but the flowers are obviously very different, and I cannot place it clearly in any group.



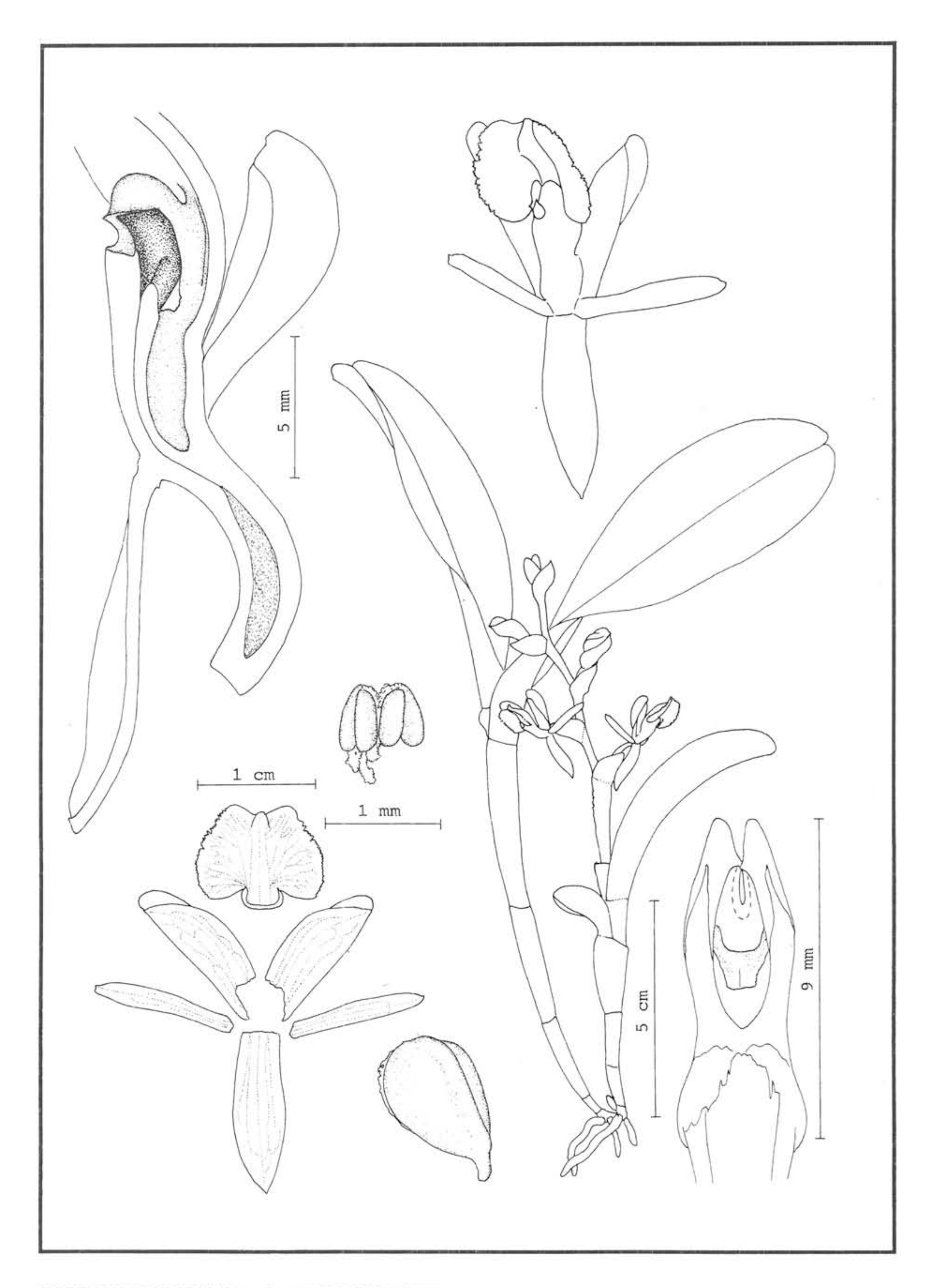
CONSERVATION STATUS: Unknown.

ETYMOLOGY: Named after the Páramo de Pilcuen, a locality cited by Lehmann.

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EPIDENDRUM PLEUROTHALLOIDES Hágsater

Plate 174

Text on the reverse side

EPIDENDRUM PLEUROTHALLOIDES Hágsater, *sp. nov.*

Holotype: PANAMA: Chiriquí: Cerro Horqueta, detrás de Boquete, 1700-2300 m, prensado en cultivo 25 septiembre 1983, *E. Hágsater & R. L. Dressler 6524*, AMO! Isotypes: F! K!,MO! US! Clonotype: 2 octubre 1982, AMO! (illustration voucher.)

Epidendro coriifolio Lindl. simile, sed caulibus gracilibus, plerumque unifoliatis, floribus successivis, et labello cordiforme, emarginato.

Hierba epífita, de aspecto pleurothalloide, donde cada tallo nuevo se origina de un entrenudo intermedio abreviado (generalmente el cuarto o quinto) del tallo anterior, 8-30 cm de alto. **Raíces** producidas en los rizomas, carnosas, delgadas, 2-3 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos arriba, los 4-5 entrenudos basales abreviados, formando un rizoma de hasta 1 cm de largo, la parte erecta 4-17 x 2-5 mm de largo, formada por 3-5 entrenudos alargados, cubiertos cuando jóvenes por vainas tubulares, lateralmente comprimidas, escariosas. **Hojas** 1 u ocasionalmente 2, en el ápice del tallo; vaina tubular, lisa, hasta 5.5 cm de largo; lámina elíptica, ápice bilobado, margen entero, subcoriácea, lisa, verde, 4.8-11 x 2.6-3.7 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, dística, erecta, 9-21 cm de largo; pedúnculo sin espata, con 1-2 brácteas espaciadas, conduplicadas, de 15-22 mm de largo; raquis lateralmente comprimido, ancipitoso. **Bráctea floral** de más corta a un poco más larga que el ovario, triangular, casi perpendicular al raquis, conduplicada, aguda, 8-11 mm de largo. **Flores** 4-8, no resupinadas, sucesivas, en ocasiones todas presentes en diferentes estados post-antesis, color verde a verde-pardo, con fragancia nocturna oleosa, levemente metálica. **Ovario** aparentemente no inflado, terete, no ornamentado, 8-13 mm de largo. **Sépalos** libres, con quilla dorsal prominente de ca. 3 mm de alto en el tercio apical, glabros, coriáceos. **Sépalo dorsal** reflexo, lanceolado, agudo, márgenes extendidos, 5-nervado, 12.5-15 x 4.5-5 mm. **Sépalos laterales** extendidos, lanceolados, agudos, márgenes extendidos, 5-nervados, 12-16 x 4-5 mm. **Pétalos** extendidos, lineares, obtusos, márgenes extendidos, enteros, 3-nervados, 12-14 x 1.7-2.5 mm. **Labelo** unido a la columna, entero, cordiforme, emarginado, mucronado, márgenes erosos, ecalloso, con una carina central roma que se extiende hasta el ápice del labelo formando el mucrón, 8-11 x 10.5-12.5 mm. **Columna** deflexa en la base respecto al ovario, recta, 9-11 mm de largo incluyendo el clinandrio. **Clinandrio** obsoleto, margen entero. **Antera** ovada, con una quilla roma al frente, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, más largas que los polinios; viscidio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/3 del largo de la cavidad estigmática. **Nectario** muy corto, penetrando hasta la base del perianto, liso interiormente. **Cápsula** aparentemente elipsoide, con perianto persistente.

Epiphytic, pleurothallid-like **herb**. **Stems** arising from an abbreviated rhizome of the previous stem. **Leaves** one or occasionally two, apical, elliptic, subcoriaceous. **Inflorescence** terminal, flowers only once, racemose, distichous, rachis laterally compressed, ancipitous, with prominent conduplicate, acute, spaced floral bracts. **Flowers** successive, sometimes all present in different **stages** post-anthesis, non-resupinate, fragrant, green or brownish-green. **Sepals** lanceolate, acute, very prominently keeled, coriaceous, 5-veined. **Petals** linear, obtuse, 3-veined. **Lip** united to the column, entire, cordiform, emarginate, mucronate, ecallose, with a low keel running down the center and forming the apical mucro. **Column** deflexed at the base with respect to the ovary, straight. **Pollinia** 4, ovovoid, laterally compressed; caudicles granulose; viscidium semiliquid, transparent. **Rostellum** subapical, slit. **Nectary** very short, not penetrating beyond the perianth. **Capsule** apparently ellipsoid, with persistent perianth.

OTHER SPECIMENS: PANAMA: Chiriquí: Folsom et al. 7236, MO! Hammel 7459, AMO! Mori & Bolten 7490, AMO! de Nevers & Charnley 6039, AMO!

DISTRIBUTION AND ECOLOGY: Apparently restricted to the higher cloud forests in western Panamá, but may also occur across the border into eastern Costa Rica. Epiphyte, in cloud forest with Podocarpus, Quercus, Drimys and Weinmannia at around 1750-2250 m altitude. Flowering apparently throughout the year.

RECOGNITION: At first glance, large pressed plants of this species look like a Pluerothallis because they usually bear a single leaf at the apex of a long, thin stem. The erect, apical raceme of relatively large, non-resupinate flowers, is reminiscent of several species of the Epidendrum rigidum Jacq. group, with its distichous, conduplicate bracts and ancipitous rachis. This combination of features is unique in Epidendrum. Otherwise the species is clearly related to E. coriifolium Lindl., E. circinatum Ames and a dozen other species in this complex.

CONSERVATION STATUS: Unknown. The species has an apparently very restricted distribution but seems to be locally common, as it has been picked up in the area by several collectors.

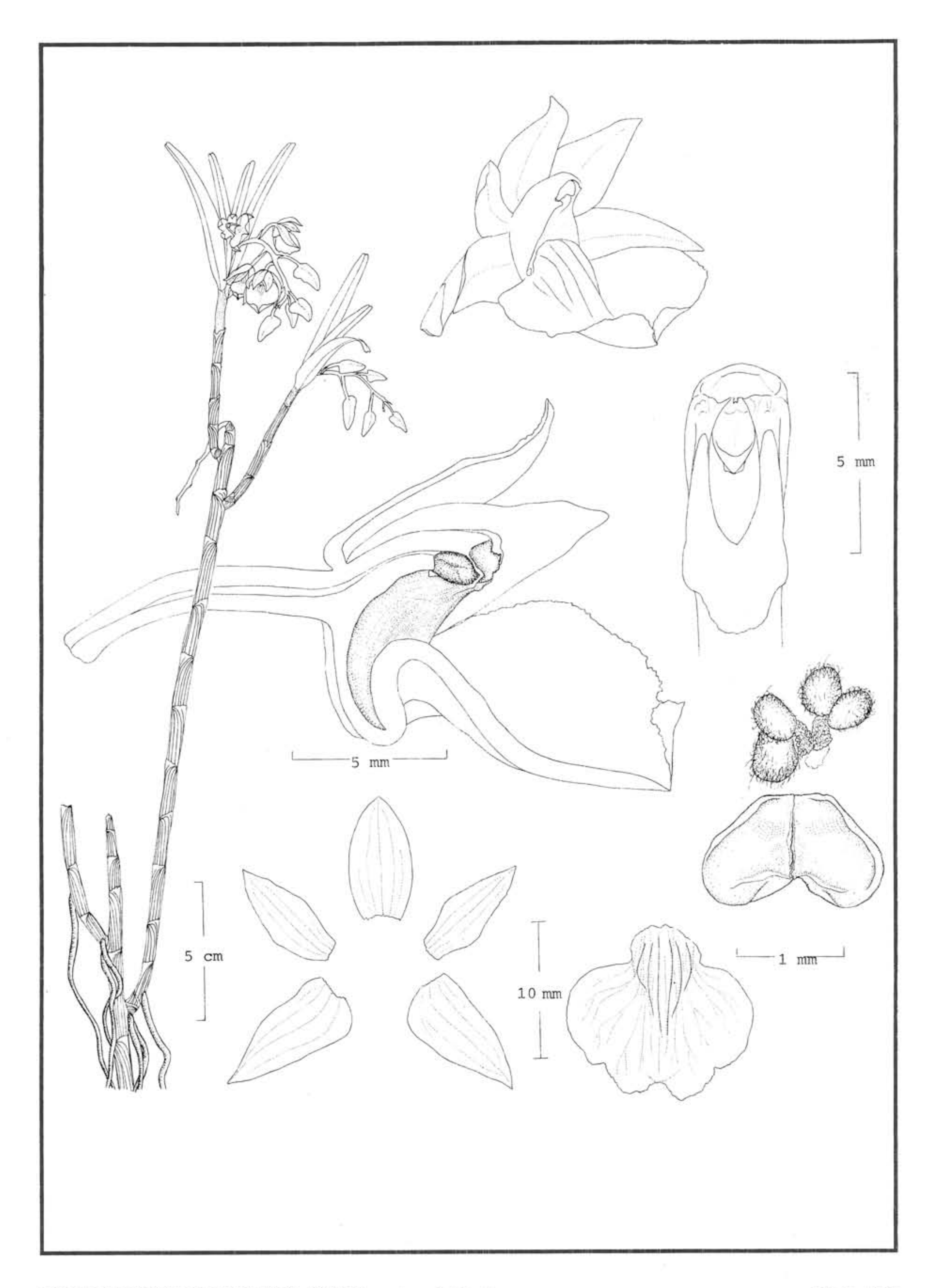
ETYMOLOGY: The name pleurothalloides refers to the Pleurothallis-like appearance of the plants.

2

Author: E. Hágsater Ilustrator: E. Hágsater Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM PODOSTYLOS Hágsater & Dodson

Text on the reverse side

EPIDENDRUM PODOSTYLOS Hágsater *et* Dodson, *sp. nov.*

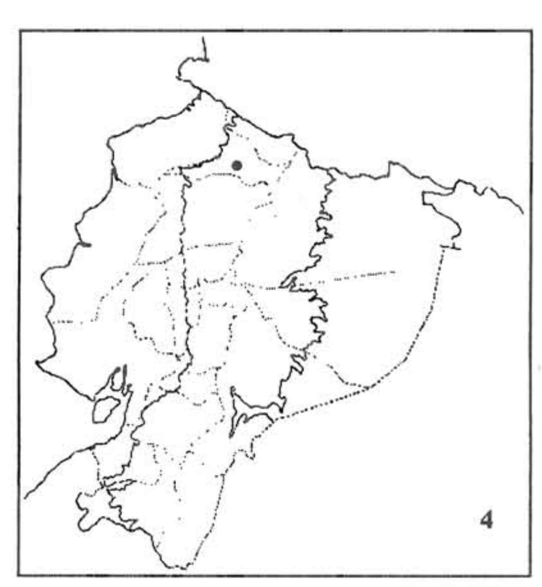
Holotype: ECUADOR: Imbabura: km 21 Cuicocha-Selva Alegre, ca. 2900 m, talud, en vegetación secundaria, colecta 6 diciembre 1986, prensado en cultivo 27 enero 1987, *E. Hágsater 9191, C. H. Dodson, P. Dodson & A. Hirtz*, QCNE! (illustration voucher.) Isotype: AMO!

Epidendro lloensi (Lindl.) Hágsater & Dodson simile, sed columnae pede majore, labelo 6 carinis laevibus, foliis 4-7 mm latis.

Hierba terrestre, cespitosa, ramificada, más de 35 cm de alto incluyendo inflorescencia. **Raíces** producidas tanto en la base del tallo basal como en la base de las ramas, carnosas, delgadas, 2 mm de grosor. **Tallo** tipo caña, terete, ramificado, recto, 7-27 cm de largo. **Hojas** numerosas, 7-18 en cada rama, equidistantes a lo largo del tallo (en ramas maduras pueden solo estar presentes las 3-4 láminas apicales); vaina terete, estriada, 0.7-2 cm de largo; lámina angostamente lanceolada, ápice bilobado, aristado, margen entero, subcoriácea, lisa, verde claro, 3.5-5.5 x 0.4-0.7 cm. **Inflorescencia** terminal, en las ramas maduras, florece una sola vez, racemosa, nutante, 5-6 cm de largo; pedúnculo terete, no ornamentado, sin espata ni brácteas. **Bráctea floral** mucho más corta que el ovario, parcialmente amplexicaule, angostamente triangular, 3-5 x 2 mm. **Flores** 10-11, resupinadas, simultáneas, fragancia no registrada, sépalos amarillo-verdoso rayados dorsalmente de rojo, pétalos amarillo-verdosos, labelo mismo color que los pétalos con callo amarillento, columna amarillenta con rayas rojas, antera blanco-verdosa. **Ovario** no inflado, terete, 7-9 mm de largo. **Sépalos** entreabiertos, libres, glabros, carnosos. **Sépalo dorsal** ovado-elíptico, agudo, márgenes extendidos, no carinado, 5-nervado, 8 x 4.5 mm. **Sépalos laterales** oblicuamente ovados, agudos, con una carina dorsal que se prolonga más allá del ápice, 3-4-nervados, 9-10 x 5 mm. **Pétalos** entreabiertos, subrómbicos, márgenes extendidos, membránaceos, 3-4-nervados, 8 x 4 mm. **Labelo** unido parcialmente al pie de columna, entero, suborbicular, ecalloso, carnoso, la base con una uña corta, el disco con seis quillas lateralmente comprimidas, lisas, las centrales un poco más largas que las laterales, ápice emarginado, con un seno amplio, margen apical eroso, 12 x 13 mm. **Columna** algo arqueada, gruesa, con una apertura ventral deltoide, 5 mm de largo, con un pie de columna muy prominente, casi tan largo como la columna misma. **Clinandrio** prominente, cubriando parcialmente la antera, entero. **Antera** obreniforme, sin ornamentación, 4-locular. **Polinios** 4, obovoides lateralmente comprimidos, subiguales; caudículas suaves y granulosas, del mismo largo que los polinios; viscidio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** muy pequeños. **Nectario** ausente, pero se forma un saco angosto entre el pie de columna y el labelo, no ornamentado. **Cápsula** no vista.

Terrestrial, caespitose, branching herb. **Roots** fleshy, from the base of stems and branches. **Stems** branched, covered by numerous, striate, leafy sheaths. **Leaf blades** narrowly lanceolate, apex bilobed, aristate, subcoriaceous. **Inflorescence** from the apex of the mature branches, flowers only once, racemose, nutant. **Floral bracts** much shorter than the ovary, narrowly triangular. **Flowers** 10-11, resupinate, simultaneous, yellow-greenish with red stripes on the outside of the sepals and the back of the column; fragrance not recorded. **Ovary** slender, not swollen. **Sepals** partly spreading, free, fleshy. **Dorsal sepal** ovate-elliptic, acute, 5-veined. **Lateral sepals** obliquely ovate, acute, 3-4-veined. **Petals** subrhombic, acute, 3-4-veined. **Lip** partly jointed to the column foot, entire, suborbicular, with a short basal claw and a wide apical sinus, apical margins erose, disc fleshy, 6-keeled, ecallose. **Column** arcuate, with a deltoid ventral opening and a very prominent column foot about as long as the column itself. **Clinandrium** prominent, covering the anther, entire. **Anther** obreniform, 4-celled. **Pollinia** 4, obovoid, somewhat compressed; caudicles soft and granulose; viscidium semiliquid. **Rostellum** subapical, slit. **Lateral lobes of the stigma** very small. **Nectary** absent, but with a narrow sac formed by the column foot and the base of the lip, unornamented.

DISTRIBUTION AND ECOLOGY: ECUADOR: From the high páramos on the western slope of the Andes, among grasses and small shrubs at around 3000 m altitude. Flowering in January.



RECOGNITION: Epidendrum podostylos is recognized by the branching habit, with narrowly lanceolate leaves 4-7 mm wide, and the nutant raceme with yellowish flowers somewhat striped with red. The column is wide-open ventrally and with a very prominent column foot, with the lip mostly free, suborbicular, emarginate and six-keeled. It is most similar to E. lloense (Lindl.) Hágsater & Dodson, but in that species there are 3 laminar, erose keels on the lip, the column foot is not as large, and the leaves are about 1.2 cm wide. E. podostylos undoubtedly belongs to the "Diothonea" group in Epidendrum.

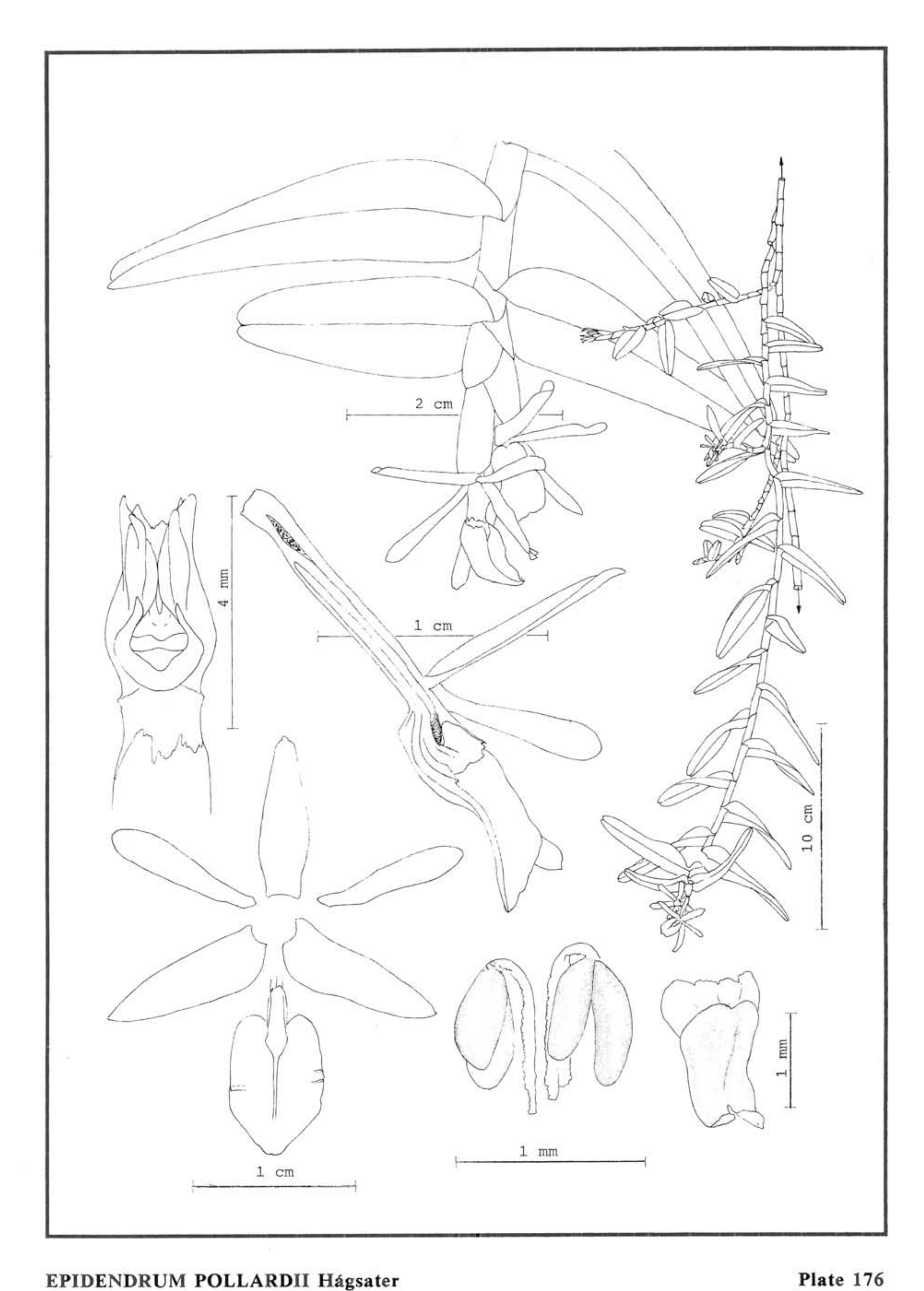
CONSERVATION STATUS: Probably not threatened, as the species grows in disturbed places with secondary vegetation along roadsides. The areas are not useful for agriculture and there is little collecting pressure as the species does not grow well outside these high paramo conditions.

ETYMOLOGY: The name podostylos is derived from the Greek podo-, foot and stylos, column, in reference to the very prominent column foot, which is about as long as the column itself, a feature common to some species in the "Diothonea" group.

Authors: E. Hágsater & C.H. Dodson Ilustrator: G.A. Salazar Editors: E. Hágsater & G. A. Salazar

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Apartado Postal 53-123, 11320 México, D.F., MEXICO



EPIDENDRUM POLLARDII Hágsater

Text on the reverse side

Plate 176

EPIDENDRUM POLLARDII Hágsater, *sp. nov.*

Holotype: MEXICO: Oaxaca: Putla, collected September 1971, prepared from cultivated material July 1977, *E. Hágsater 2073*, AMO! (illustration voucher.)

Epidendro singulifloro Schltr. simile, sed plerumque duobus floribus dorso versus dorsum dispositis, atrobrunneis brunneo-viridibus, labello oblongo, non constricto, columnam non amplectenti.

Hierba epífita, colgante, ramificada, hasta 200 cm de largo. **Raíces** producidas solo en la base de la planta, carnosas, 1-1.5 mm de grosor. **Tallos** colgantes, ramificados, tipo caña, teretes, rectos a ligeramente flexuosos, de 2.5-4 mm de grosor, el principal hasta 200 cm de largo, con hojas de 4-7 x 1.2-1.7 cm, las ramas primarias hasta 35 cm de largo, con hojas de 3.5-5.5 x 1-1.4 cm, y las ramas secundarias o florales, producidas del tallo principal y principalmente de las ramas primarias, cortas, de 2.5-10 cm de largo, con hojas más pequeñas, de 2-4 x 0.7-1.2 cm. **Hojas** equidistantes a lo largo del tallo y las ramas; vaina tubular, rugosa, hasta 2.5 cm de largo; lámina angostamente lanceolada, ápice bilobado, margen entero, coriácea, carnosa, lisa, verde. **Inflorescencia** terminal en las ramas secundarias, florece una sola vez de un mismo lugar pero las ramas pueden producir una nueva ramificación floral, muy corta, ca. 5 mm de largo; pedúnculo con 2-4 brácteas imbricadas, conduplicadas, de 4-9 mm de largo. **Bráctea floral** casi tan larga como el ovario, ovada, 10-14 mm de largo. **Flores** 1 ó 2, cuando 2 se encuentran espalda con espalda, con fragancia nocturna, débil, concoloras, pardo oscuro a pardo-verdoso. **Ovario** no inflado, terete, no ornamentado, 10-13 mm de largo. **Sépalos** extendidos, libres, con quilla dorsal apical, glabros, subcoriáceos. **Sépalo dorsal** lanceolado, agudo, márgenes revolutos, plurinervado, 10-14 x 3 mm. **Sépalos laterales** oblicuamente lanceolados, agudos, márgenes revolutos, plurinervados, 9-13 x 3 mm. **Pétalos** entreabiertos, angostamente oblanceolados, redondeados a obtusos, membranáceos, márgenes extendidos, plurinervados, 10-13 x 2-2.5 mm. **Labelo** unido a la columna, entero, oblongo, base cordada, ápice triangular, obtuso a redondeado, márgenes enteros, subcoriáceo, delgado, 8-9 x 5.5-6 mm; callo en forma de "Y", prolongándose en una carina central. **Columna** recta, corta, 3.5 mm de largo incluyendo el clinandrio. **Clinandrio** no prominente, margen eroso. **Antera** subovoide, terminando en dos prominencias petaloides hacia el frente, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas algo más largas que los polinios; viscidio semilíquido, transparente. **Rostelo** situado cerca de la mitad de la columna, hendido. **Lóbulos laterales del estigma** muy pequeños. **Nectario** muy profundo, penetrando 3/4 del ovario, liso interiormente. **Cápsula** piriforme, ca. 12 x 7.5 mm, el ápice provisto de un pico de ca. 7.5 mm de largo.

Epiphytic, hanging, branching herb. **Roots** at the base of the plant only. **Main stem** producing primary branches; the shorter secondary or floral branches produced from either main stem or primary branch but mainly from the latter, and may produce successive flowering branchlets. **Leaves** evenly distributed along the stems, narrowly lanceolate, apex bilobed, coriaceous, fleshy. **Flowers** one or two, when two disposed back to back, fragrant at night, deep brown to greenish-brown. **Sepals** spreading, lanceolate, acute, many-veined, with dorsal-apical keel. **Petals** narrowly oblanceolate, rounded to obtuse, many-veined. **Lip** united to the column, entire, oblong, base cordate, apex triangular, obtuse to rounded, callus Y-shaped, extending into a central keel. **Column** straight. **Anther** subovoid, with two petaloid processes towards the front. **Clinandrium** not prominent, erose. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose; viscidium semiliquid, transparent. **Rostellum** near the middle of the column, slit. **Nectary** very deep, penetrating 3/4 of the ovary. **Capsule** pyriform, with a long beak at the apex.

OTHER SPECIMENS: MEXICO: Guerrero: Dumont 28, AMO! SEL! UAMIZ! Nagel sub Östlund 1996, AMES! U! Oaxaca: Pollard 1-190-1A, MEXU!

DISTRIBUTION AND ECOLOGY: Endemic to Mexico, in Guerrero and Oaxaca. Found in tall evergreen forests, hanging from trees, at ca. 1000 m altitude. Flowering from June to October.

RECOGNITION: The long, hanging, branching plants with fleshy, coriaceous leaves less than 7 cm long, flowering from short floral branches, with one or two deep brown to greenish-brown flowers, the floral segments 9-14 mm long, and the lip flat, not enclosing the column, distinguish this species from its relatives. It is similar to E. singuliflorum Schltr. and E. acuñae Dressler. E. singuliflorum has leaves and flowers of similar size, but the flowers are usually singly produced and the lip is constricted near the middle. E. acuñae has larger leaves on the main stem (10-12 cm long), and larger flowers (sepals 13-19 mm long) (see Hágsater 1990a, 1990b).

CONSERVATION STATUS: Aparently rare. This species is known from two localities only. In one of them, Putla, Oaxaca, it was found within the limits of the town but these reports are from 16 to 25 years ago. In Guerrero it has been collected in several instances in recent times, and it is doubtful that the habitat will be completely destroyed. The species is of little horticultural interest.

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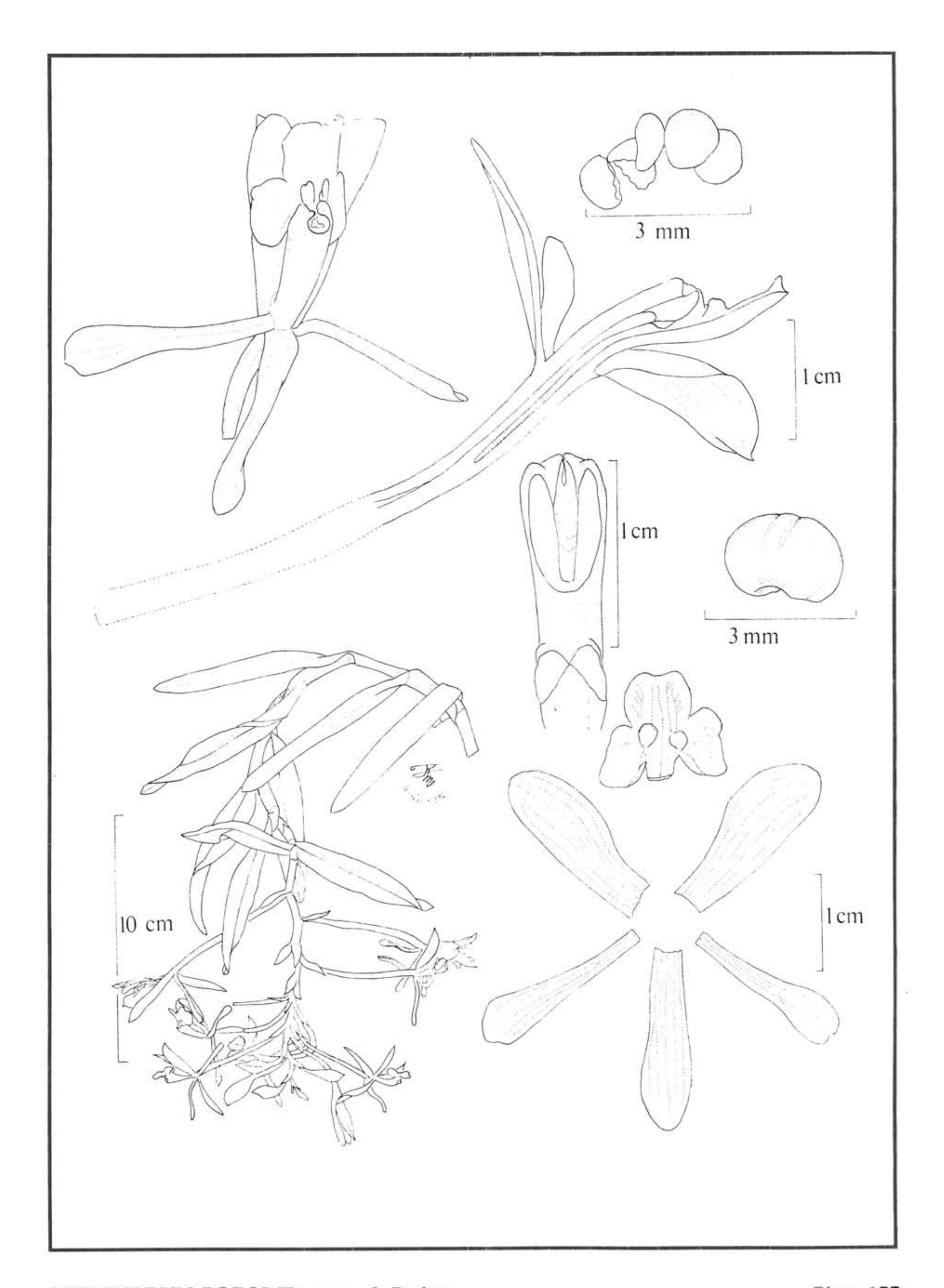
ETYMOLOGY: I am pleased to name this species after Glenn E. Pollard, who devoted much of his life to the study of the Mexican orchids, and especially the genus Epidendrum. His work has been the basis on which I have worked the genus Epidendrum in Mexico, which we had agreed to do together before his passing away in 1976. He prepared herbarium specimens and other materials of this species.

REFERENCES: Hágsater, E. 1990a. Epidendrum acuñae Dressler. In: E. Hágsater and G.A. Salazar (eds.), Icones Orchidacearum 1: pl. 26; Hágsater, E. 1990b. Epidendrum singuliflorum Schltr. Ibíd.: pl. 42.

Author: E. Hágsater Ilustrator: E. Hágsater Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM POZOI Hágsater & Dodson

Plate 177

Text on the reverse side

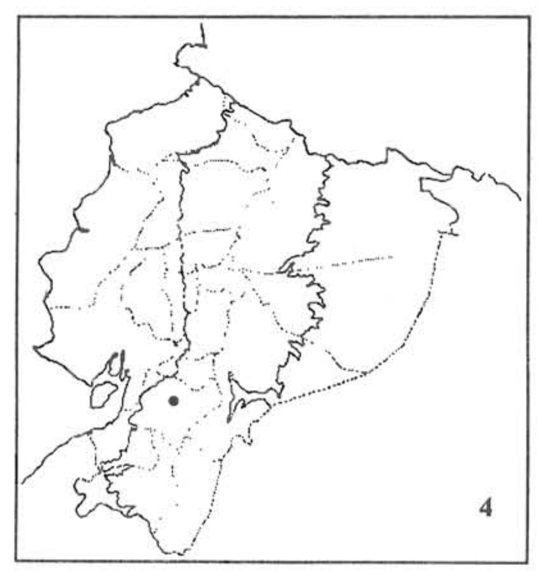
EPIDENDRUM POZOI Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Prov. Azuay: Cerca de Tarqui, en la carretera Cuenca-Girón, 2800 m, 28 noviembre 1984, *C.H. Dodson & A. Pozo 15465*, RPSC! (illustration voucher.)

Epidendro adamsii Hágsater & Dodson simile, sed ovario multo longiore, sepalis angustioribus, rotundatis, petalis ad marginem integris, labelli lobis lateralibus marginibus exterioribus rectis, lobi mediani apice obscure emarginato, cum apiculo perparvo differt.

Hierba terrestre o litófita, cespitosa, ramificada subapicalmente. **Tallos** teretes, 5 mm de grosor. **Hojas** distribuidas a lo largo del tallo; vainas tubulares, estriadas y finamente rugosas (en seco), ca. 26 x 5 mm; láminas linear-elípticas, ápice bilobado, estriadas (en seco), margen entero, 5.5-9.5 x 0.9-1.2 cm. **Inflorescencia** terminal, del tallo maduro, racemosa, florece una sola vez, sin espata, con una bráctea similar a las brácteas florales cerca de la base, de 15 mm de largo; raquis terete, algo en zig-zag, 10 cm de largo, aparentemente colgante. **Brácteas florales** ovadas, agudas, mucho más cortas que el ovario, 7-15 x 4-5 mm. **Ovario** muy largo, un poco dilatado progresivamente hacia el ápice, 35-62 x 1.5 mm. **Flores** ca. 17, sucesivas, hasta 8 abiertas a la vez, no resupinadas, los botones apicales en desarrollo cuando las flores basales se marchitan, color verde. **Sépalo dorsal** extendido, oblanceolado, redondeado, márgenes laterales ligeramente revolutos, 5-nervado, con un par de nervios secundarios al lado de la nervadura central, 20-24 x 5-6 mm. **Sépalos laterales** entreabiertos, oblicuamente oblanceolado-espatulados, redondeados, con quilla dorsal apical poco prominente, márgenes enteros, algo revolutos en los lados, 5-nervados, con un par de nervios secundarios a los lados de la nervadura central, 19-26 x 7 mm. **Pétalos** extendidos, angostamente cuneado-espatulados, redondeados, márgenes enteros, revolutos, 3-nervados, los nervios laterales bifurcados arriba de la mitad, 18-24 x 4-5 mm. **Labelo** unido a la columna, trilobado, bicalloso, los callos subglobosos, con una quilla central engrosada terminando en el ápice del lóbulo medio, la base cordada, en total 11-14 x 13-14 mm; lóbulos laterales subovado-cuadrangulares, el margen lateral más o menos recto, entero; lóbulo medio de tamaño similar a los laterales, suborbicular, muy ligeramente emarginado, con un apículo muy pequeño en el seno que es la proyección de la quilla central, margen entero. **Columna** ligeramente arqueada, 14 mm de largo incluyendo el clinandrio. **Clinandrio** obsoleto, margen entero. **Antera** reniforme, con una quilla ancha y roma al frente, 4-locular. **Polinios** 4, subglobosos, lateralmente comprimidos; caudículas granulosas, del mismo largo que los polinios; viscidio semilíquido. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** grandes, de 1/3 del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando 1/4 del ovario, angosto, no ornamentado. **Cápsula** no vista.

Terrestrial or lithophytic, caespitose herb. **Stems** terete, subapically branching. **Leaves** distributed throughout the stems; sheath tubular, striate and rugulose; blade linear-elliptic, apex bilobed, striate (in dried condition), margin entire. **Inflorescence** terminal, racemose, flowers only once, without spathe, with a bract similar to the floral bracts near the base, apparently pendent; rachis somewhat zig-zag, terete. **Floral bracts** ovate, acute, much shorter than the ovaries. **Flowers** non-resupinate, ca. 17, about half open at the same time, the apical buds developing when the basal flowers are wilting, green. **Ovary** very long, progressively slightly dilated towards the apex. **Dorsal sepal** spreading, oblanceolate, rounded, margins entire, somewhat revolute, 5-veined, with 2 secondary veins next to the midvein. **Lateral sepals** partly open, obliquely oblanceolate-spatulate, rounded, with a low apical keel, margins entire, somewhat revolute, 5-veined, with 2 secondary veins next to the midvein. **Petals** spreading, narrowly cuneate-spatulate, rounded, margins entire, revolute, 3-veined, the lateral veins bifurcate above the middle. **Lip** united to the column, 3-lobed, bicallose, the calli subglobose, with a median, low keel running down the middle to the apex of the midlobe; lateral lobes subovoid-quadrangular, the outer margin straight, margin entire; midlobe of similar size to the lateral lobes, suborbicular, apex obscurely emarginate and minutely apiculate, margin entire. **Column** slightly arcuate. **Clinandrium** obsolete, margin entire. **Anther** reniform, with a wide, low keel in front, 4-celled. **Pollinia** 4, subglobose, laterally compressed; caudicles granulose, as long as the pollinia; viscidium semiliquid. **Rostellum** apical, slit. **Nectary** shallow, penetrating about 1/4 of the ovary, narrow, unornamented.



DISTRIBUTIION AND ECOLOGY: Known only from the type. Terrestrial or lithophyte at 2800 m altitude. Flowering in November.

RECOGNITION: Epidendrum pozoi belongs to the E. cernuum H.B.K. group and is similar to E. adamsii Hágsater & Dodson, from which is distinguished by the much longer (35-62 vs. 20-32 mm) ovaries, the narrower, rounded sepals, the petals with entire margins, and the somewhat larger lip with the outer margins of the lateral lobes straight and the apex of the midlobe rather obscurely emarginate, minutely apiculate. E. adamsii has obovate sepals, the dorsal rounded but apiculate, the laterals acute, the petals erose-lacerate, the lateral lobes of the lip rounded, and the apex of the midlobe with a broad sinus with a large, blunt apicule in the center.

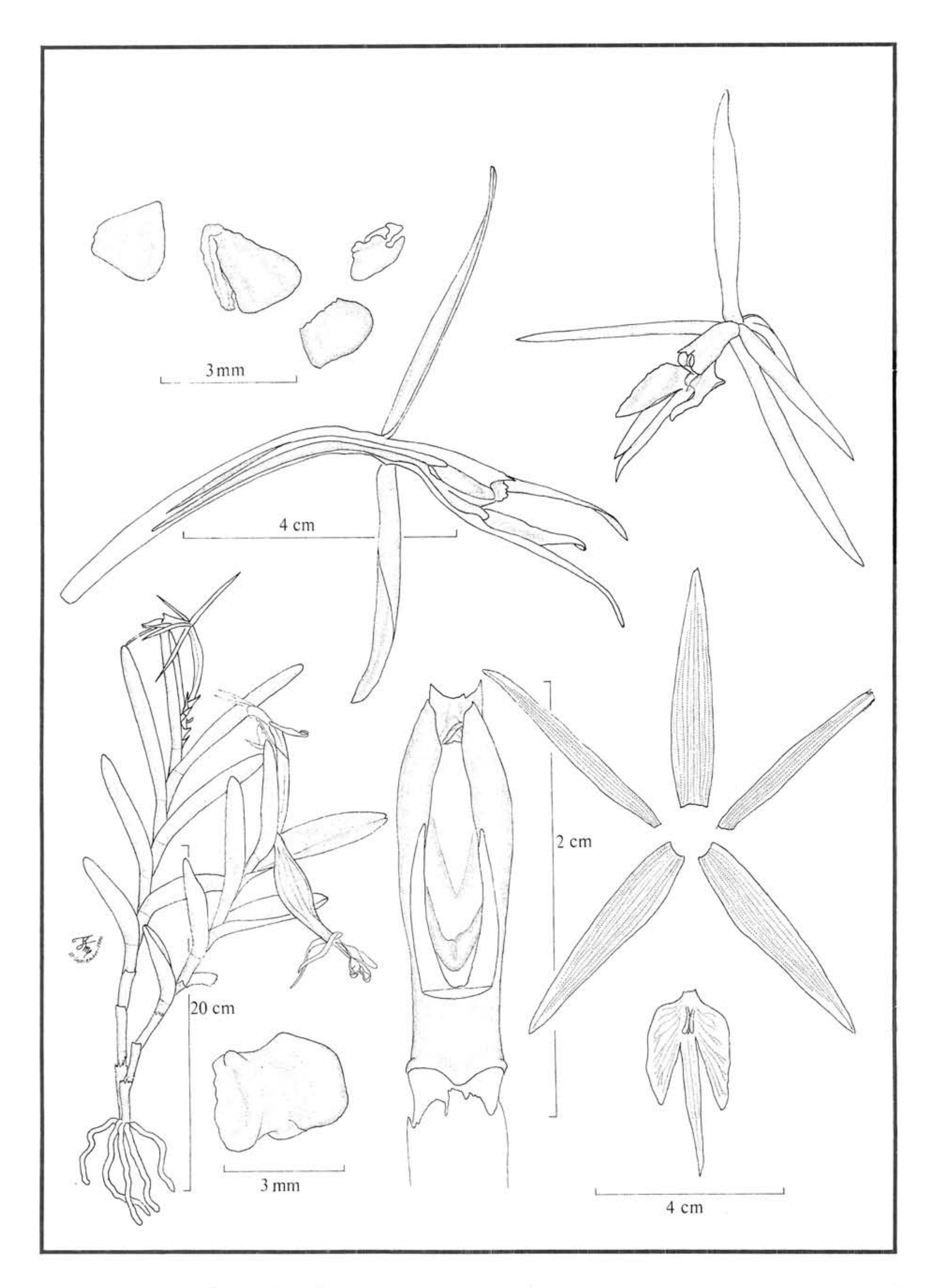
CONSERVATION STATUS: Unknown.

ETYMOLOGY: Named in honor of Alfonso Pozo, of Cuenca, Ecuador, an amateur collector of local orchid species who maintains excellent culture conditons, especially for the high-altitude species of Ecuador, and who participated in the collection of the type specimen.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM PSEUDONOCTURNUM Hágsater & Dodson **Plate 178**

Text on the reverse side

EPIDENDRUM PSEUDONOCTURNUM Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Esmeraldas: km 3.2 camino Lita-San Lorenzo, sobre talud en selva muy húmeda, 670 m, 11 julio 1990, *E. Hágsater 10627, C.H. Dodson, D. Rubio & N. Revelo*, QCNE! Isotypes: AMES! AMO! SEL!

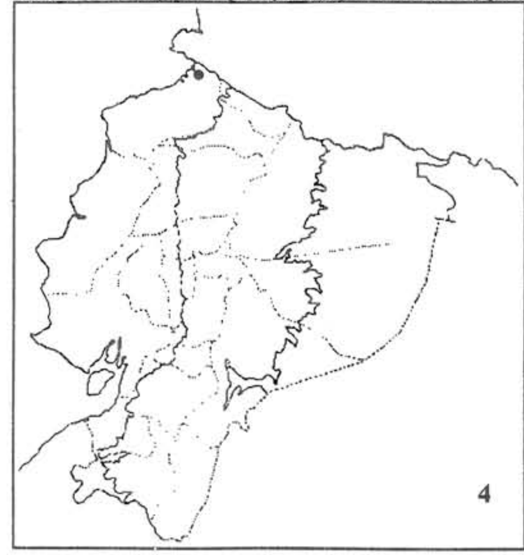
Epidendro nocturno Jacq. simile, sed differt caule tereti, foliis viridibus, floribus minoribus et capsula breviter pedicellata, breviter rostrata.

Hierba terrestre o epífita, cespitosa, 20-45 cm de alto. **Raíces** basales, carnosas, gruesas, 2-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 18-41 cm de largo, 4-5 mm de grosor, cubiertos por vainas foliares. **Hojas** 6-8, distribuidas a lo largo del tallo; vaina tubular, 3.5-5.5 cm de largo; lámina elíptica a oblonga, ápice desigualmente bilobado, coriácea, margen entero, lisa, verde oscuro, 2-12 x 1.2-3 cm. **Inflorescencia** terminal, del tallo maduro, florece sucesivamente durante varios años, produciendo varios racimos, dística, hasta 2 cm de largo, en zig-zag, sin espata, con 1-2 brácteas en el pedúnculo semejantes a las brácteas florales. **Bráctea floral** mucho más corta que el ovario, cuculada, subaguda, 8-10 mm de largo. **Flores** sucesivas, ocasionalmente dos abiertas a la vez en distinto grado de madurez, resupinadas; sépalos y pétalos verdosos o amarillo-verdosos, labelo blanco, callos amarillos, columna blanca, antera blanca. **Ovario** no inflado, terete, no ornamentado, 60-80 mm de largo. **Sépalos** extendidos, libres, glabros, algo carnosos, angostamente lanceolados, los laterales algo oblicuos, atenuados, márgenes basales ligeramente revolutos, 7-nervados, con venas secundarias, siendo estas más evidentes hacia la base, 48-52 x 7-8 mm. **Pétalos** entreabiertos, linear-lanceolados, atenuados, márgenes ligeramente revolutos, 5-nervados, 47-50 x 3.5-4 mm. **Labelo** unido a la columna, trilobado, bicalloso, con una carina muy baja entre los ápices de los callos, 36-40 x 16 mm; lóbulos laterales oblicuamente semiovados; lóbulo medio casi dos veces más largo que los laterales, linear-triangular, atenuado, márgenes enteros. **Columna** recta, gruesa, 18-22 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, margen dorsal bidentado, los lados erosos. **Antera** en forma de silla de montar, terminada hacia el frente en dos lóbulos prominentes, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, más cortas que los polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/4 del largo de la cavidad estigmática. **Nectario** muy profundo, penetrando 2/3 del ovario, no ornamentado. **Cápsula** elipsoide, áptera, de 5 x 1.5 cm, con pedicelo de ca. 1.5 cm y pico de 1.6 cm de largo.

Terrestrial or epiphytic, caespitose herb. **Roots** fleshy, thick. **Stems** simple, terete, straight. **Leaves** 6-8, distributed throughout the stem; sheath tubular; blade elliptic to oblong, apex unequally bilobed, coriaceous, deep green. **Inflorescence** terminal, from the mature stem, flowers successively during several years producing several racemes. **Flowers** successive, occasionally two open at the same time but at different degrees of maturity; sepals and petals greenish or yellowish-green, lip and column white, calli yellow. **Floral bract** much shorter than the ovary, cucullate, acute. **Ovary** terete, not inflated. **Sepals** spreading, free, glabrous, somewhat fleshy, narrowly lanceolate, attenuate, 7-veined. **Petals** partly open, linear-lanceolate, attenuate, margins revolute, 5-veined. **Lip** united to the column, 3-lobed, bicallose, with a low keel between the apices of the calli; lateral lobes obliquely semiovate; midlobe linear-triangular, attenuate, nearly twice as long as the lateral lobes. **Column** straight, thick. **Clinandrium** prominent, apex bidentate, lateral margins erose. **Anther** saddle-shaped, the apex bilobed, 4-celled. **Pollinia** 4, obovoid, laterally compressed, subequal; caudicles soft and granular, shorter than the pollinia; viscidium semiliquid, transparent. **Rostellum** apical, slit. **Lateral stigma lobes** small. **Nectary** very deep, penetrating 2/3 of the ovary. **Capsule** ellipsoid, with short pedicel and apical beak.

OTHER SPECIMENS: ECUADOR: Esmeraldas: Dodson et al. 16866, RPSC! 17161, AMO! RPSC! Hágsater et al. 10807 (flower stuck on card), AMO! (illustration voucher.) Jativa & Epling 876, UC!

DISTRIBUTION AND ECOLOGY: Presently known only from the area between Lita and San Lorenzo, Province of Esmeraldas, Ecuador, but expected also northwards, from the coastal rain forests in southwestern Colombia. Terrestrial on roadside slopes or epiphyte, in tall rain forest, growing with E. calanthum Rchb. f. & Warsc., E. baumannianum Schltr. and E. muricatoides Hágsater & Dodson, from 250 to 800 m altitude. Flowering in July.



RECOGNITION: The general aspect of E. pseudonocturnum is that of E. nocturnum Jacq., but can be distinguished by the terete, non-ancipitous stems, the green leaves of 8-12 x 2-3 cm, and the smaller flowers with sepals and petals 47-52 mm long. The capsule has a short pedicel and an apical beak, each only about 15 mm long, while in E. nocturnum the capsule has a pedicel about 6 cm long. Epidendrum buenaventurae Schltr., from the Colombian coast, has leaves to 15 x 1.5 cm and sepals 30-43 mm long. E. litense Hágsater & Dodson is much smaller in every sense, the leaves being 1.7-8 x 0.3-0.95 cm.

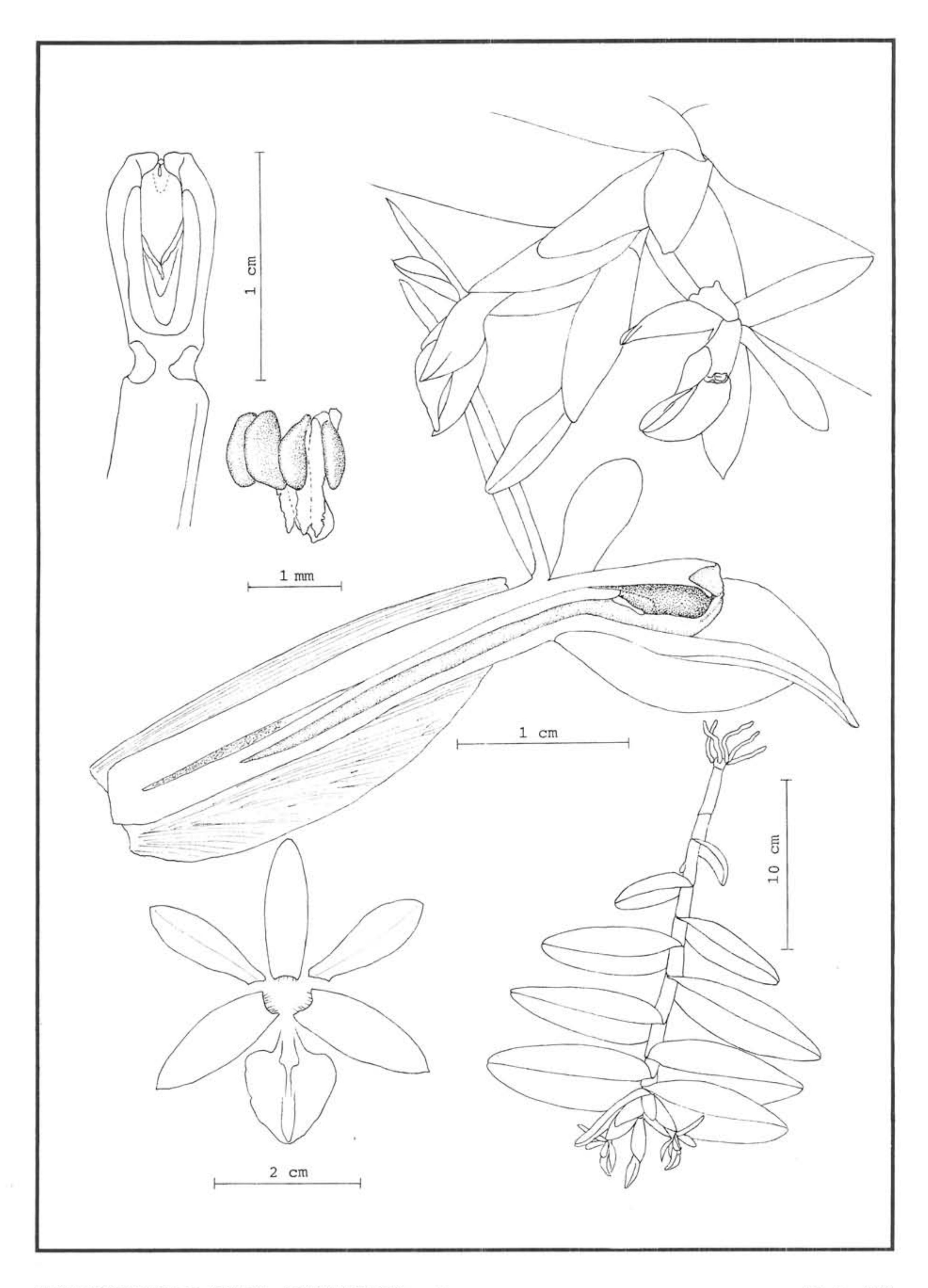
CONSERVATION STATUS: Unknown. The species seems to be uncommon and its range of distribution has not been determined. The area where it has been collected is partly protected, at least in theory, but neighboring areas in indian reserves may be more effectively conserved and the species is expected to be there.

ETYMOLOGY: The epithet is in reference to the resemblance of this species to Epidendrum nocturnum.

Authors: E. Hágsater & C.H. Dodson   Ilustrator: R. Jiménez   Editors: E. Hágsater & G. A. Salazar

Herbario de la Asociación Mexicana de Orquideología, A.C.

Apartado Postal 53-123, 11320 México, D.F., MEXICO



EPIDENDRUM RAFAEL-LUCASII Hágsater

Text on the reverse side

EPIDENDRUM RAFAEL-LUCASII Hágsater, *sp. nov.*

Holotype: PANAMA: Sin localidad, preparado de material cultivado 15 abril 1983, *R. L. Dressler sub E. Hágsater 6293*, AMO! (illustration voucher.)

Epidendro mirabili Ames & C. Schweinf. simile, sed floribus minoribus, viridi-flavis, labello cordiformi vel triangulari.

Hierba epífita, colgante, con crecimiento sucesivo lateral, sin tallo principal. Raíces de la base de la planta, carnosas, delgadas, 1.5-3 mm de grosor. Tallo recto, delgado, terete, producido de un entrenudo intermedio del tallo anterior, 12-28 cm de largo. Hojas 9-11, distribuidas a lo largo del tallo; vaina tubular, terete, cubriendo totalmente el entrenudo correspondiente del tallo, verde con puntos pardo oscuro, 17-30 x 6-8 mm; lámina elíptica a lanceolada, emarginada, con un mucrón en el seno, subcoriácea, 3-12 x 1.6-3.6 cm. Inflorescencia terminal, florece una sola vez, dística, corta, recta, hasta 6 cm de largo; pedúnculo en ocasiones con 1-2 brácteas basales semejantes a las brácteas florales, conduplicadas, membranáceas, de 14-23 x 8-11 mm; raquis en zig-zag. Brácteas florales prominentes, conduplicadas, color verde con puntos pardos, tornándose pardo oscuro durante la floración, más o menos tan largas como el ovario, 21-33 x 8-13 mm. Flores 2-4, sucesivas, con fragancia diurna débil que recuerda la del limón, color amarillo-verdoso, sépalos exteriormente punteados de pardo. Ovario terete, no inflado, recto, 24-30 mm de largo. Sépalo dorsal extendido, elíptico, subcoriáceo, obtuso, dorsalmente carinado cerca del ápice, plurinervado, 17-20 x 4-5 mm. Sépalos laterales similares al dorsal, entreabiertos, rectos. Pétalos entreabiertos, angostamente oblanceolados, obtusos, subcoriáceos, 16 x 5 mm. Labelo unido a la columna, entero, triangular a cordiforme, los lados abrazando la columna ligeramente, subcoriáceo, 10-11 x 9-11 mm; callo en forma de "T", prolongándose en una quilla central roma y prominente. Columna recta, gruesa, 10 mm de largo. Clinandrio corto, irregular. Antera trapezoide, cóncava, 4-locular. Polinios 4, obovoides, lateralmente comprimidos; caudículas suaves y granulosas; viscidio semilíquido. Rostelo apical, hendido. Lóbulos laterales del estigma prominentes, de 1/3 del largo de la cavidad estigmática. Nectario muy profundo, penetrando 3/4 del ovario, angosto, no ornamentado. Cápsula no vista.

Epiphytic, pendent herb. Stems produced from a middle internode of the previous stem. Leaves distributed throughout the stem; sheath tubular, dotted with brown; blade elliptic to lanceolate, emarginate, mucronate. Inflorescence terminal, flowers only once, short, distichous; peduncle sometimes with 1-2 bracts similar to the floral bracts; rachis zigzag. Floral bracts prominent, conduplicate, about as long as the ovary, dotted with brown, turning brown during flowering. Flowers 2-4, successive but all may be open at the same time, greenish-yellow, with weak diurnal lemon-like fragrance. Ovary terete, not inflated. Sepals elliptic, obtuse, many-veined. Petals narrowly oblanceolate, obtuse. Lip united to the column, entire, triangular to cordiform, the sides partially embracing the column; callus T-shaped, prolonged into a prominent central keel. Column straight, thick. Clinandrium short, margin irregular. Anther trapezoid, concave, 4-celled. Pollinia 4, obovoid, laterally compressed, caudicles soft and granulose, viscidium semiliquid. Rostellum apical, slit. Lateral stigma lobes prominent, of about 1/3 of the length of the stigmatic cavity. Nectary deep, penetrating 3/4 of the ovary, not ornamented.

OTHER SPECIMENS: COSTA RICA: Endres 541, W! Alajuela: Brenes 866, NY! Gómez et al. 20966, CR! Lent sub Rodríguez 1212, USJ! Steven 13803, AMO! F! 14249, AMO! CR! F! Todzia & Campos s.n., CR! without collector or collection number, USJ(26155)! Limón: Standley 37423, AMES! 37481, AMES! San José: Todzia 2033, CR!

OTHER RECORDS: COSTA RICA: Alajuela: Lent sub Rodríguez 1212 (xerox and slide of the illustraion No. 698 by Rafael Lucas Rodríguez), AMO!

DISTRIBUTION AND ECOLOGY: Costa Rica and Panama. Epiphyte, in lower mountain rain forest, mainly from 600 to 1000 m altitude. Flowering from June to September (probably throughout the year).

RECOGNITION: Epidendrum rafael-lucasii is recognized by the pendent plants with the stems produced from the middle of a previous stem, and the 2-4 flowered raceme with greenish-yellow, lemon-scented flowers and prominent distichous bracts. Epidendrum mirabile is similar but has larger, very showy purple flowers. Epidendrum mora-retanae Hágsater has a long, conspicuous main stem and small branches from which the raceme with imbricating bracts and white flowers is produced. Epidendrum acuñae Dressler also has a main stem with small flowering branches, fleshy leaves and a raceme of two greenish-brown flowers.



CONSERVATION STATUS: Unknown. The species appears to be conserved in various national parks.

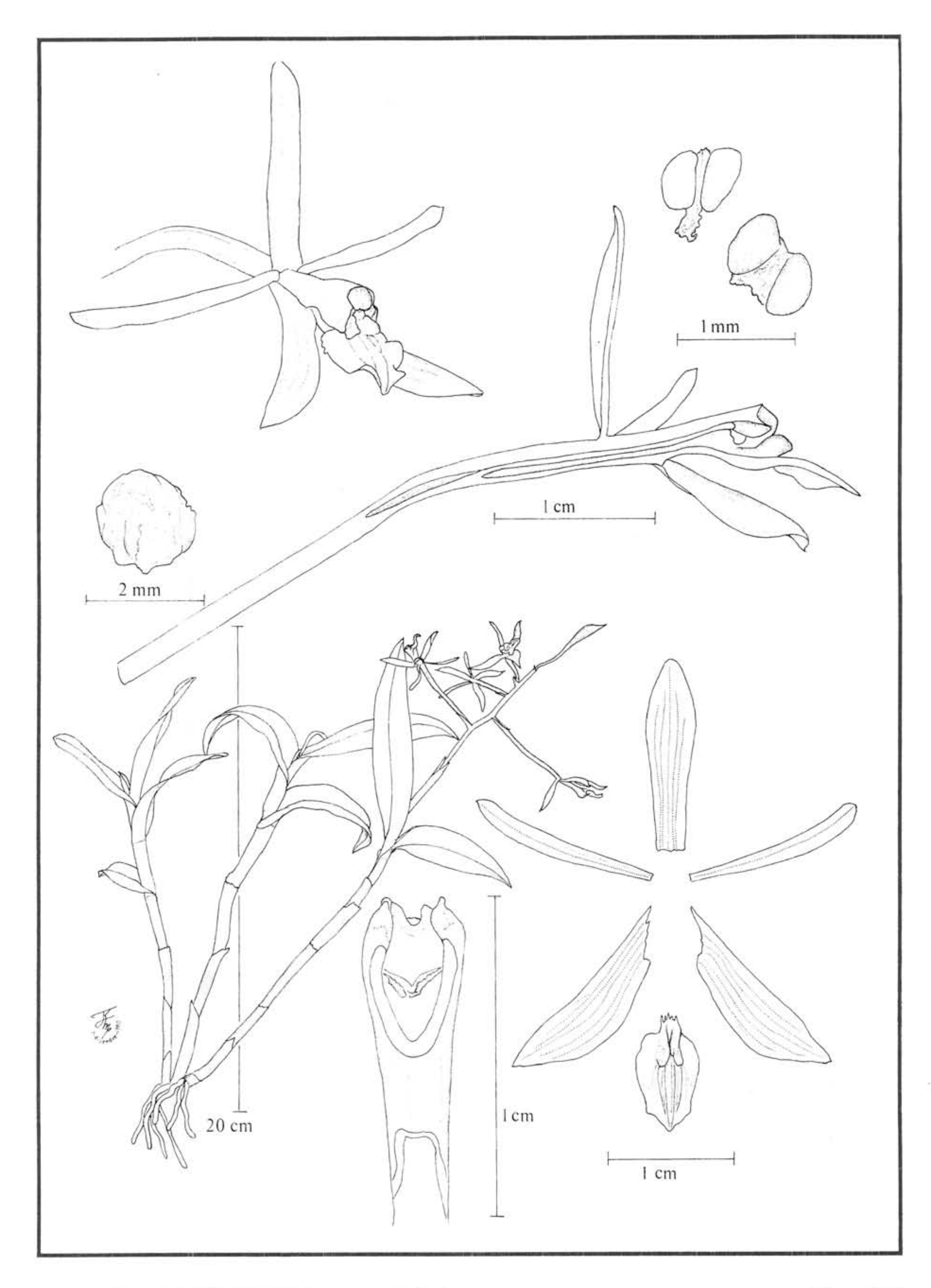
ETYMOLOGY: This species is dedicated to Rafael Lucas Rodríguez, Costarican botanist who prepared a large collection of illustrations of orchids of Costa Rica, a selection of which was published by the Univeristy of Costa Rica in 1986 as "Géneros de Orquídeas de Costa Rica".

REFERENCES: Rodríguez, R.L., D.E. Mora, M.E. Barahona and N.H. Williams. 1986. Géneros de Orquídeas de Costa Rica. Editorial Universidad de Costa Rica. San José. 334 pp.

Author: E. Hágsater Ilustrator: E. Hágsater Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM REVELOI Hágsater & Dodson

Text on the reverse side

Plate 180

EPIDENDRUM REVELOI Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Prov. Napo; km 27 Pifo-Baeza-El Chaco, 2100-3000 m, prensado en cultivo 14 abril 1984, *Thurston T-4023 & C. H. Dodson [14267]*, QCNE!

Epidendro odonthospatho Rchb. f. simile, sed differt labello integro, acuto.

Hierba epífita, cespitosa. ca. 25 cm de alto. **Raíces** basales, carnosas. **Tallos** sencillos, tipo caña, lateralmente comprimidos, rectos, 15-20 cm de largo, 5-7 mm de grosor. **Hojas** 3-4, distribuidas en el tercio apical del tallo; vaina tubular, lisa, lateralmente comprimida, hasta ca. 2 cm de largo; lámina angostamente elíptica, aguda, margen entero, lisa, color verde oliváceo, 7-9 x 1.8-2 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, racemosa, suberecta, 12 cm de largo; pedúnculo terete, con 2 espatas imbricadas, conduplicadas, agudo-acuminadas, de 5-6 cm de largo. **Bráctea floral** más corta que el ovario, triangular, acuminada, 4-10 mm de largo. **Flores** 3-5, simultáneas, no resupinadas, sin fragancia aparente; sépalos y pétalos color verde bronceado, labelo verde manzana, en ocasiones con una mancha morada. **Ovario** no inflado, terete, 28-32 mm de largo. **Sépalo dorsal** extendido, libre, sin quilla dorsal, membranáceo, angostamente oblanceolado, redondeado, márgenes extendidos, 5-nervado, 15-18 x 4 mm. **Sépalos laterales** entreabiertos, libres, sin quilla dorsal, membranáceos, angostamente oblanceolados, falcados, agudos, márgenes extendidos, 5-nervados, 15-18 x 5 mm. **Pétalos** extendidos, angostamente linear-oblanceolados, redondeado-obtusos, márgenes extendidos, membranáceos, uninervados, con una nervadura secundaria en la mitad basal, 14-17 x 1.5 mm. **Labelo** unido a la columna, entero, prominentemente bicalloso, con 3 carinas centrales prominentes, romas, la central llegando hasta el ápice, ovado, truncado en la base, triangular y agudo en el ápice, 8-10 x 6 mm. **Columna** recta, delgada, 10-11 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** subesférica, 4-locular. **Polinios** 4, subglobosos, algo comprimidos lateralmente, especialmente el lado interior de cada par; caudículas suaves y granulosas, ligeramente más largas que los polinios; viscidio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** prominentes, de alrededor de 1/3 del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando 1/4 del ovario, liso interiormente. **Cápsula** no vista.

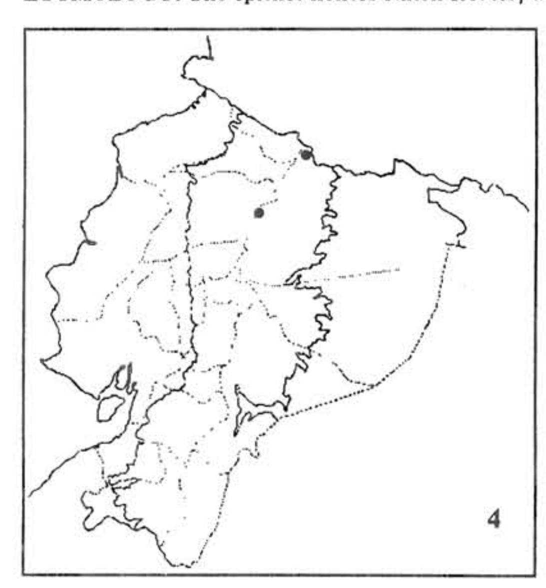
Epiphytic, caespitose herb. **Stems** erect, simple, terete. **Leaves** 3-4, distributed along the apical 1/3 of the stem, narrowly elliptic, acute. **Inflorescence** terminal, erect, racemose, flowers only once, subtended by two imbricating, conduplicate, acute-acuminate spathes. **Flowers** simultaneous, non-resupinate, bronzy green, the lip apple green, sometimes with a purple blotch. **Bracts** triangular, acuminate, much shorter than the ovary. **Ovary** thin, terete. **Dorsal sepal spreading**, narrowly oblanceolate, rounded, 5-veined. **Lateral sepals** partly open, narrowly oblanceolate, falcate, acute, 5-veined. **Petals** narrowly linear-oblanceolate, rounded-obtuse, 1-veined, sometimes with 1 secondary vein at the base. **Lip** united to the column, entire, prominently bicallose, with 3 low keels, the central one running down to the apex, ovate, base truncate, apex triangular, acute. **Column** straight, thin. **Clinandrium** obsolete. **Anther** subspherical, 4-celled. **Pollinia** 4, subglobose, internally flattened; caudicles granulose; viscidium semiliquid. **Rostellum** slit. **Nectary** shallow, penetrating 1/4 of the ovary, unornamented.

OTHER SPECIMENS: ECUADOR: Carchí: Hágsater et al. 10606, AMO! (illustration voucher.)

DISTRIBUTION AND ECOLOGY: Know only from the Eastern Cordillera of the Andes in northern Ecuador. Epiphyte, in humid "elfin" forest, at about 3000 m altitude. Seen in flower in the field in July, flowered in cultivation in Mexico City in December and April.

RECOGNITION: Epidendrum reveloi is similar to E. odonthospathum Rchb. f., but can be easily distinguished by the entire, ovate, acute lip, while the latter has a neatly 3-lobed lip, with the lateral lobes semiorbicular and the midlobe emarginate. At first sight the plant resembles a poor specimen of one of the members of the E. paniculatum Ruiz & Pav. group, but the spathes and flowers permit its separation.

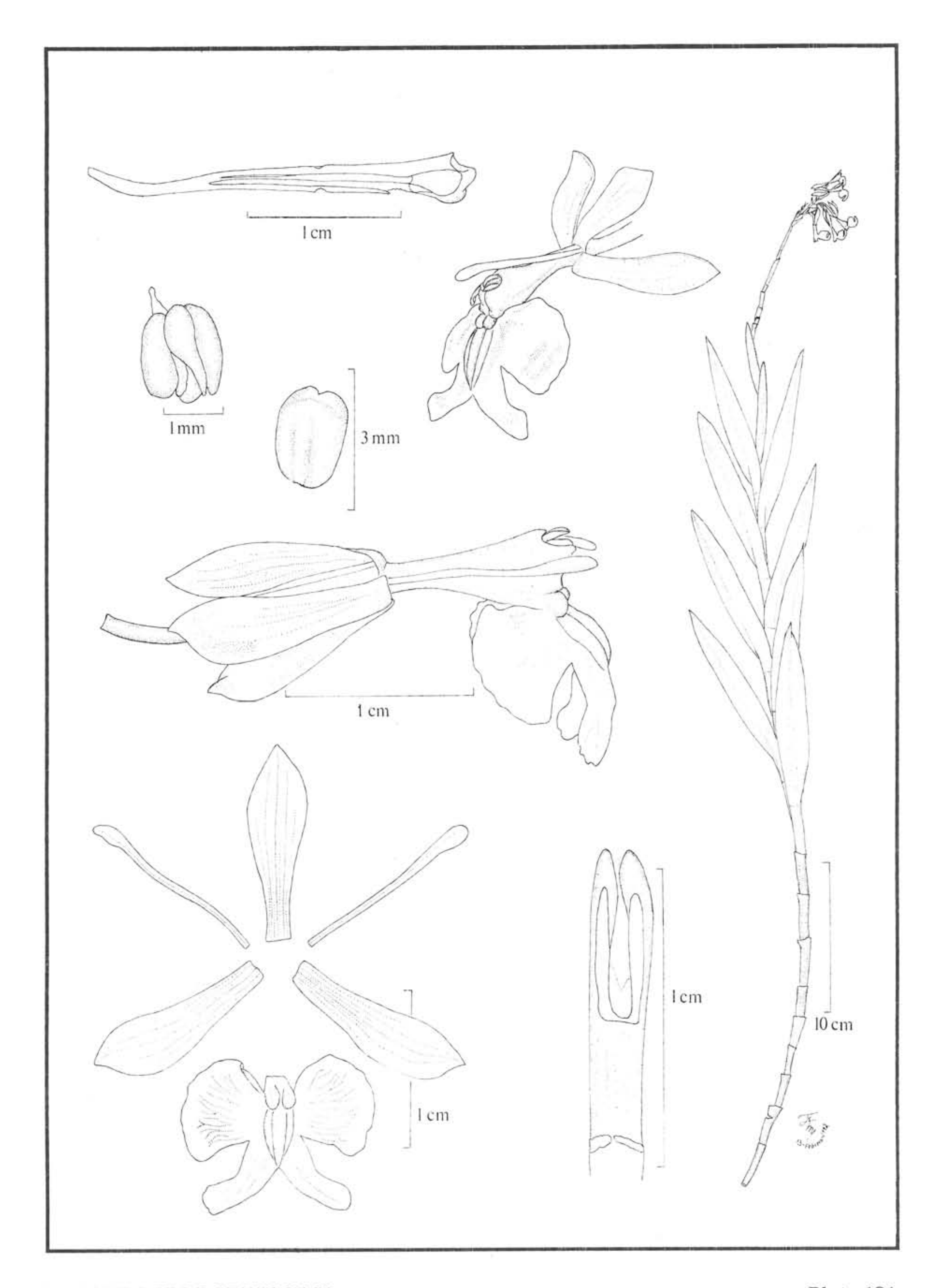
ETYMOLOGY: The epithet honors Nixon Revelo, who participated in the collection of this species.



Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM RODRIGOI Hágsater

Text on the reverse side

Plate 181

EPIDENDRUM RODRIGOI Hágsater, *sp. nov.*

Holotype: COLOMBIA: Without locality or collector, cultivated by R. Londoño near Guarne, pressed 1 July 1989, *R. Escobar 4021*, AMO! (illustration voucher.)

Epidendro turialvae Rchb. f. simile, sed differt foliis brevioribus, sepalis petalisque olivaceis, labello uniformiter roseo.

Hierba epífita, cespitosa, ca. 70 cm de alto. Raíces basales, no vistas. Tallos erectos, rectos, tipo caña, lateralmente comprimidos, ancipitosos, cubiertos en la base por vainas tubulares papiráceas, 40 x 0.3-0.5 cm. Hojas numerosas, distribuidas a lo largo de la mitad apical del tallo; vaina tubular, ancipitosa, 2.5-3 x 0.3-0.5 cm; lámina angostamente elíptico-lanceolada, aguda, graminoide, haz verde, envés morado, 10-12 x 1.5-1.9 cm. Inflorescencia terminal, en el tallo maduro, más larga que las hojas, 20 cm de largo, florece durante varios años del mismo pedúnculo, produciendo nuevos racimos de los nudos apicales; pedúnculo elongado, ancipitoso en la base, suberecto, parcialmente cubierto por brácteas, las dos basales imbricadas, tubulares en la mitad basal, ancipitosas, agudas, de 5-8 x 0.5 cm, las demás progresivamente más pequeñas, conduplicadas, agudas; racimo terminal, corto, raquis 0.5-1 cm de largo. Bráctea floral triangular, aguda, mucho más corta que el ovario, 2-3 mm de largo. Flores 3-7 por racimo, simultáneas, fragancia no reportada; sépalos y pétalos verde olivo, labelo rosa, columna reportada como blanca. Ovario filiforme, 18 mm de largo. Sépalos reflexos, oblanceolados, subagudos, carnosos, 5-nervados, los laterales algo falcados, 13 x 4 mm. Pétalos reflexos o en ocasiones erectos, lineares, redondeados, 1-nervados, 12 x 1 mm. Labelo unido a la columna, 4-lobado, bicalloso, con tres quillas romas, carnosas, que recorren todo el disco hasta el seno apical, 10 x 13 mm; lóbulos basales dolabriformes, margen algo eroso, 5 x 7 mm; lóbulos apicales divaricados, prominentes, oblongo-falcados, redondeados, 5 x 1.5-2 mm. Columna recta, delgada, terminada en un diente triangular a cada lado del ápice, 12 mm de largo. Clinandrio obsoleto. Antera semiovoide, 4-locular. Polinios 4, tipo "ala de pájaro", translúcidos, fuertemente comprimidos lateralmente, los interiores algo más pequeños; caudículas en dos pares, laminares, algo más cortas que los polinios; viscidio semilíquido. Rostelo apical, hendido. Lóbulos laterales del estigma prominentes, de 1/3 del largo de la cavidad estigmática. Nectario profundo, penetrando ca. la mitad del ovario. Cápsula no vista.

Epiphytic, caespitose herb. Stems straight, reed-like, ancipitous. Leaves narrowly elliptic-lanceolate, acute, graminoid, purple underneath. Inflorescence terminal, erect, longer than the leaves, flowering during several years, producing successive racemes from the same peduncle; peduncle elongated, raceme short. Floral bracts much shorter than the ovary, triangular, acute. Flowers 3-7, simultaneous, resupinate, sepals and petals olive green, lip pink, column reported as white. Ovary filiform. Sepals reflexed, oblanceolate, subacute, fleshy, 5-veined. Petals reflexed to erect, linear, rounded, 1-veined. Lip united to the column, 4-lobed, bicallose, with 3 fleshy keels, these running down to the apical sinus; basal lobes dolabriform, margin erose; apical lobes divaricate, oblong-falcate, rounded. Column straight, slender. Clinandrium obsolete. Anther semiovoid, 4-celled. Pollinia 4, "bird-wing" type, strongly laterally compressed, transparent, the inside pair somewhat smaller; caudicles laminar, somewhat shorter than the pollinia; viscidium semiliquid. Rostellum apical, slit. Nectary deep, penetrating about half the ovary.

OTHER SPECIMENS: COLOMBIA: Antioquia: Hodge 6778, AMES! US!

DISTRIBUTION AND ECOLOGY: Known only from the valley of the Río Medellín, Antioquia, Colombia. Epiphyte, in evergreen tropical forest at 1100 m altitude. Flowering from April to July.

RECOGNITION: Epidendrum rodrigoi is a member of the E. paniculatum Ruiz & Pav. group, within the E. turialvae Rchb. f. subgroup, and closely related to E. turialvae Rchb. f., from which it can be distinguished by the shorter leaves and the evenly pink-colored lip. Epidendrum antonense Hágsater has the same general habit but smaller flowers, the lip being very fleshy, deep purple and vernicose.



NOTE: The petals, which are sometimes appressed to the column, do not seem to provide a reliable character for separating this species. However, all other species in this subgroup show reflexed petals.

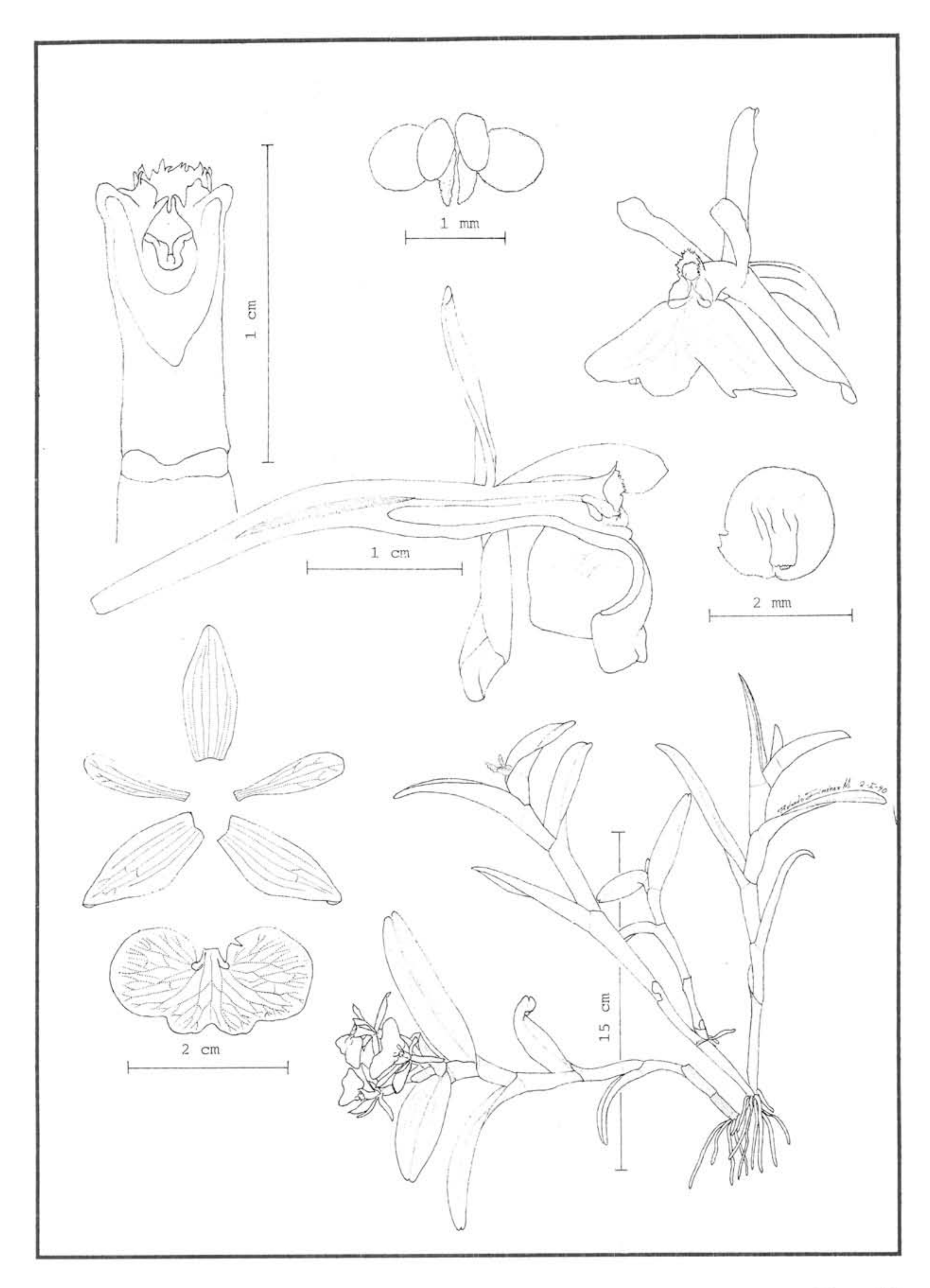
CONSERVATION STATUS: Unknown.

ETYMOLOGY: This species is dedicated to Rodrigo Escobar, from Medellín, Colombia, avid student of Colombian orchids who has been a prime mover of orchidology there. He has coauthored a number of papers, especially on Telipogon and Lepanthes, and coordinated the recently published four volumes of "Orquídeas Nativas de Colombia". He has been aware of this new species for a number of years.

Author: E. Hágsater Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM ROMANII Hágsater & Dodson

Plate 182

Text on the reverse side

EPIDENDRUM ROMANII Hágsater *et* Dodson, *sp. nov.*

Holotype: Ecuador: El Oro: Zaruma, Parroquia Malvas, 1200 m, 8 March 1990, *Román sub Hágsater 9587*, AMO! Isotypes: MEXU! NY! RPSC! US! Clonotypes: 10 January 1990, XAL! (illustration voucher.) 16 April 1990, AMES! ENCB! SEL! 18 March 1991, QCA! 8 May 1991, AMO! 25 June 1991, IBUG!

Epidendro chlorocorymbi Schltr. simile, sed differt foliis ascendentibus, 2-6 floribus simultaneis, ovario inflato, callis parvis, et clinandrio prominenti, obconico, margine dentato.

Hierba epífita, cespitosa, 18-26 cm de alto. Raíces basales, carnosas, 1-2 mm de grosor. **Tallo** sencillo, tipo caña, terete, flexuoso, 15-22 cm de largo. **Hojas** 5-9, equidistantes a lo largo del tallo, ascendentes; vaina no ornamentada, 2-3.5 cm de largo; lámina angostamente elíptica, ápice asimetricamente bilobado, margen entero, extendida, lisa, sin carina dorsal, verde, 4-8 x 0.7-1.4 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, cortamente pedunculada. **Bráctea** floral de 1/3 del largo del ovario, elíptica. **Flores** 2-6, simultáneas, resupinadas, verde-amarillentas, con aroma a coco solo al abrir completamente. **Ovario** inflado longitudinalmente en la mitad apical, terete, no ornamentado, 25-35 mm de largo. **Sépalos** subcoriáceos, glabros, extendidos, libres. **Sépalo dorsal** elíptico, redondeado, márgenes enteros, revolutos, 5-nervado, 15-16 x 6 mm. **Sépalos laterales** oblicuamente elípticos, redondeados, con quilla dorsal-apical baja, márgenes enteros, revolutos, 5-nervados, 13.5-16 x 6-6.8 mm. **Pétalos** oblanceolados, redondeados, márgenes enteros, extendidos, 3-nervados, 13.5-15.5 x 3.3-4.5 mm. **Labelo** unido a la columna, trilobado, bicalloso, los callos pequeños, sin quillas, 12.5-13.5 x 23-26.5 mm; lóbulos laterales semiorbiculares, margen entero; lóbulo medio ancho y corto, profundamente emarginado formando dos lóbulos semiorbiculares. **Columna** recta, 10 mm de largo. **Clinandrio** prominente, obcónico, margen dentado. **Antera** subesférica, con una quilla roma al frente, 4-locular. **Polinios** 4, subiguales, subglobosos, lateralmente comprimidos; caudículas suaves y granulosas, de largo similar al de los polinios; viscidio viscoso, translúcido. **Rostelo** subapical, hendido. **Nectario** algo profundo, penetrando 1/3 del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stems** reed-like, terete, flexuous. **Leaves** narrowly elliptic, apex unequally bilobed, subcoriaceous, ascending. **Inflorescence** terminal, flowers only once. **Flowers** 2-6, simultaneous, resupinate, yellowish-green, with nocturnal scent of coconut. **Sepals** subcoriaceous, spreading, free, elliptic, rounded, margins entire, revolute, 5-veined; lateral sepals obliquely elliptic. **Petals** oblanceolate, rounded, margin entire, 3-veined. **Lip** united to the column, 3-lobed, bicallose; lateral lobes semiorbicular; midlobe short and wide, deeply emarginate, forming two distinct semiorbicular lobules. **Column** straight. **Clinandrium** prominent, obconical, margin dentate. **Anther** subglobose. **Pollinia** 4, subglobose, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent. **Rostellum** subapical, slit. **Nectary** penetrating 1/3 of the ovary.

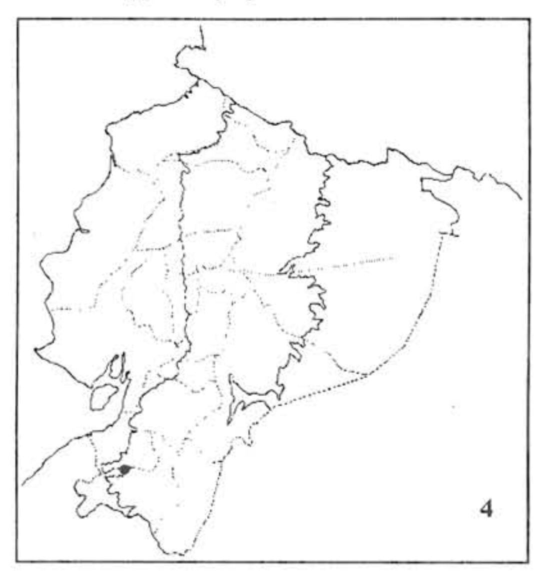
OTHER SPECIMENS: ECUADOR: El Oro: Hitchcock 21277, AMES! US!

DISTRIBUTION AND ECOLOGY: Known only from Ecuador. On trees, from 600 to 1200 m altitude. Flowering throughout the year.

RECOGNITION: Epidendrum romanii is a member of the E. difforme Jacq. complex, and can be recognized by the ascending leaves, 3-lobed lip, midlobe short and wide, deeply emarginate, forming two distinct semiorbicular lobules, and clinandrium prominent and obconical with dentate margin. It is similar to E. chlorocorymbos Schltr., which has spreading leaves, more than 10 flowers and clinandrium not obconical.

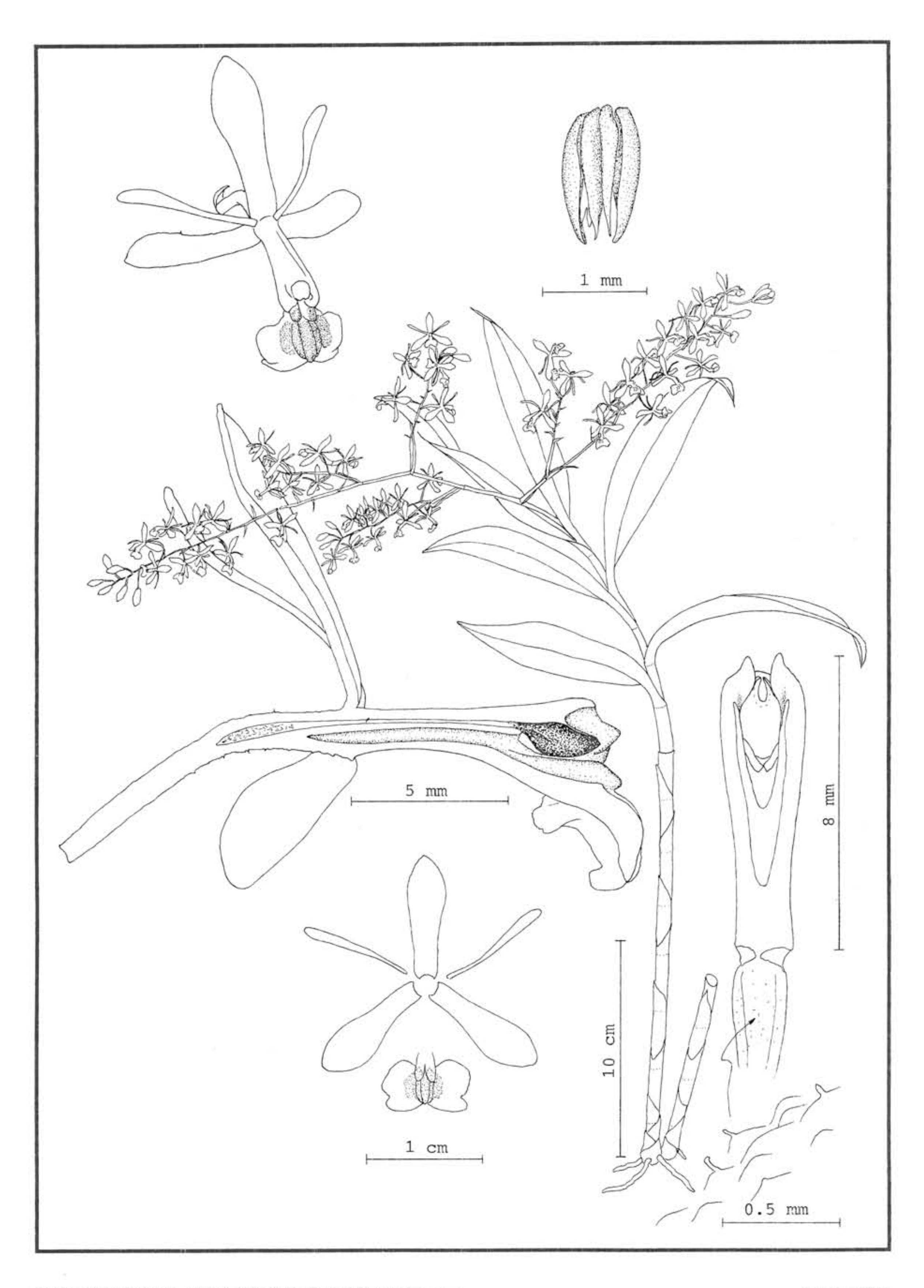
CONSERVATION STATUS: Undetermined.

ETYMOLOGY: This species is dedicated to Emilio Román, Ecuadorean orchid collector who provided the plant from which the type was prepared.



Authors: E. Hágsater & C.H. Dodson   Ilustrator: R. Jiménez   Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM ROSEOSCRIPTUM Hágsater

Text on the reverse side

Plate 183

EPIDENDRUM ROSEOSCRIPTUM Hágsater, *sp. nov.*

Holotype: GUATEMALA: Baja Verapaz, sin localidad precisa, prensado en cultivo 25 abril 1982, *Dix sub Hágsater 5360*, AMO! (illustration voucher.) Isotypes: ENCB! F! K! UVAL! Clonotypes: 6 mayo 1981, BR! MO! NY! 10 mayo 1986, AMO! GUAT! MEXU!

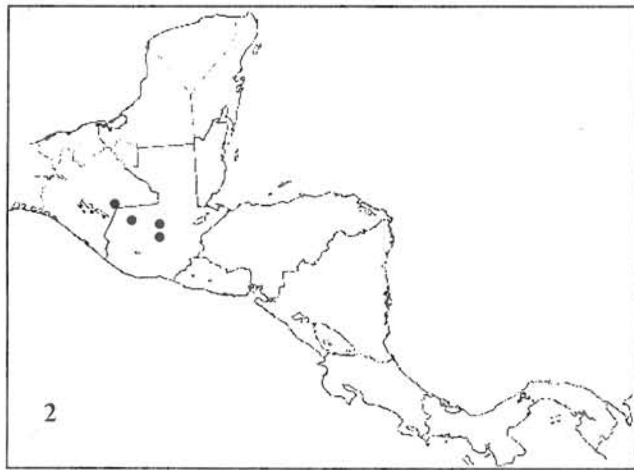
Epidendro veroscripto Hágsater simile, sed labelli lobis apicalibus obsoletis, per sinus parum profundos e lobis basalibus separatis, disco cum macula pallide rosea differt.

Hierba litófita o epífita, cespitosa, 30-40 cm de alto. **Raíces** basales, carnosas, ca. 2.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 20-30 x 0.4-0.6 cm. **Hojas** 6-9, distribuidas casi a todo lo largo del tallo; vaina tubular, lisa, hasta 3.5 cm de largo; lámina elíptica, aguda, margen entero, lisa, verde, 6-13 x 1.5-2.7 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, paniculada, suberecta, 11-27 cm de largo; pedúnculo sin espata, con brácteas basales prominentes, notables en el inicio del desarrollo de la inflorescencia, generalmente dos (raramente ausentes), acuminadas, conduplicadas, hasta 6.5 cm de largo; raquis ligeramente comprimido lateralmente. **Brácteas florales** de mucho más cortas hasta tan largas como el ovario (las basales), triangulares, acuminadas, 2-15 mm de largo. **Flores** 26-90, simultáneas, resupinadas, con fragancia diurna fuerte a lima-limón, sépalos, pétalos y mitad basal de la columna verde amarillento, mitad apical de la columna y labelo blancos, el disco con una gran mancha rosada. **Ovario** no inflado, terete, finamente ornamentado, escasamente piloso, 10-30 mm de largo. **Sépalos** reflexos, libres, sin quilla dorsal, fina y escasamente pilosos exteriormente, carnosos, angostamente espatulado-oblanceolados, obtusos, márgenes extendidos, 5-nervados, 9.5-13 x 2.5-3.5 mm. **Pétalos** reflexos a extendidos, muy angostamente oblanceolados a filiformes, redondeados, márgenes extendidos, membranáceos, uninervados, 9.5-12 x 0.6-0.8 mm. **Labelo** unido a la columna, obscuramente 4-lobado, cordado en la base, bicalloso, con 3 carinas prominentes, romas, la central llegando hasta el seno apical, 4-5 x 7-8 mm; lóbulos basales semiorbiculares, márgenes enteros; lóbulos apicales obsoletos, apenas separados de los lóbulos basales por senos poco profundos, fuertemente divaricados. **Columna** recta, delgada, 7-9 mm de largo incluyendo el clinandrio. **Clinandrio** no prominente, margen entero. **Antera** ovoide, 4-locular. **Polinios** 4, tipo "ala de pájaro", fuertemente comprimidos lateralmente, transparentes, los interiores algo menores; caudículas suaves y lisas, ligeramente más cortas que los polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** prominentes, de alrededor de 1/3 del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando ligeramente detrás de la base del perianto, liso interiormente. **Cápsula** no vista.

Lithophytic or epiphytic, caespitose herb. **Roots** basal, fleshy. **Stems** simple, reed-like, terete. **Leaves** distributed throughout the stem; sheath tubular; blade elliptic, acute, margin entire. **Inflorescence** terminal, from the mature stem, flowers only once, paniculate, suberect, with prominent bracts (usually two) at the base of the peduncle. **Floral bract** much shorter to about as long as the ovary, acuminate. **Flowers** simultaneous, resupinate, fragrant of lemon-lime during daytime, sepals, petals and basal half of the column yellowish-green, apical half of column and lip white, the disk with a large pink spot. **Ovary** not inflated, terete, finely ornamented, scarcely pilose. **Sepals** reflexed, free, dorsally finely and scarcely pilose, fleshy, narrowly spatulate-oblanceolate, obtuse, 5-veined. **Petals** reflexed or spreading, very narrowly oblanceolate to filiform, rounded, 1-veined. **Lip** united to the column, obscurely 4-lobed, cordate at base, bicallose, with three prominent keels; basal lobes semiorbicular, margins entire; apical lobes obsolete, barely separated from the basal lobes by shallow sinuses, strongly divaricate. **Column** straight, slender. **Clinandrium** not prominent, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, "bird-wing" type, strongly compressed lateraly, transparent, the inner pair somewhat smaller; caudicles smooth and soft, somewhat smaller than the pollinia; viscidium semiliquid. **Rostellum** apical, slit. **Lateral stigma lobes** prominent. **Nectary** shallow, barely penetrating beyond the perianth.

OTHER SPECIMENS: GUATEMALA: **Alta Verapaz:** Béhar sub Hágsater 6046, AMES! AMO! SEL! US! Cook & Griggs 785, US! Croat 41450, AMO! MO! Dix 44-00004, UVAL! Dix sub Hágsater 5785, AMO! F! Lehmann 1424, BM! G! US! Lewis 223, AMES! Standley 69977, F! 70022, F! 70228, F! 89801, F! 90035, F! 90271, AMES! F! 90792, F! Türckheim 1337, Z! Wilson 353, F! **Baja Verapaz:** Dix s.n., AMO! Dix sub Hágsater 5361, AMO! LL! **Huehuetenango:** Holdridge 2324, US! **MEXICO: Chiapas:** Breedlove 35136, CAS!

DISTRIBUTION AND ECOLOGY: Mexico and Guatemala. Epiphyte, in mixed humid forest from 1200 to 1800 m altitude. Flowering from March to May.



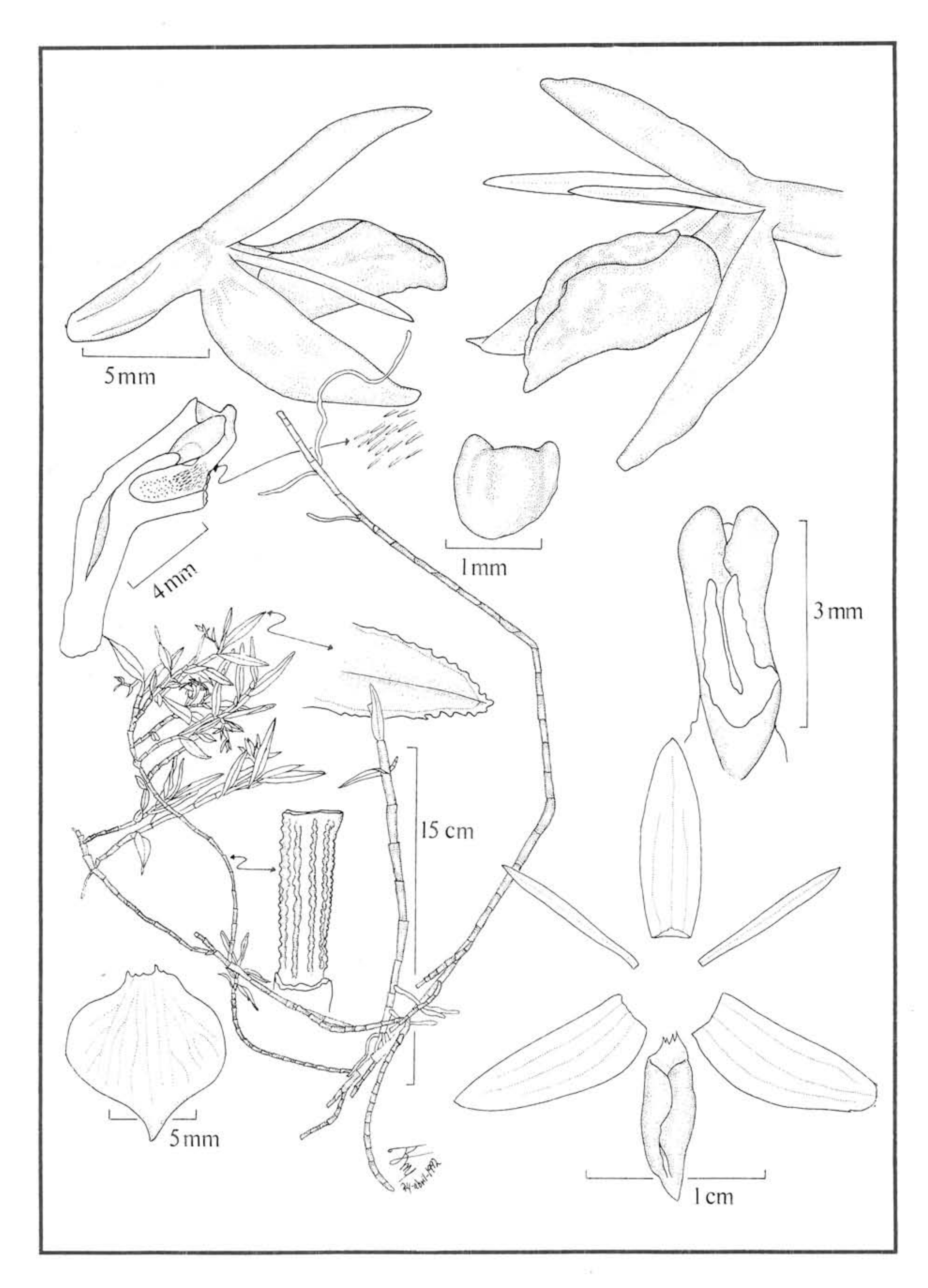
RECOGNITION: Epidendrum roseoscriptum is closely related to E. veroscriptum Hágsater, but can be distinguished by the disc of the lip with a single, large pink blotch and the apical lobes usually obsolete, or barely separated from the basal lobes by shallow sinuses. E. veroscriptum usually has a ring of deep purple dots around the disk, and the apical lobes are clearly separated from the basal lobes by deep, narrow sinuses. E. isthmii Schltr., found at lower altitudes, has green and white flowers, lip without any rose or purple markings, and apical lobes clearly separated from the basal ones, which are rectangular, with erose margins.

ETYMOLOGY: The epithet roseoscriptum refers to the close relationship of this species with E. veroscriptum, formerly known as E. scriptum A. Rich. & Gal. (non E. scriptum L.), and the pink blotch on the lip.

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EPIDENDRUM RUBIOI Hágsater & Dodson — **Plate 184**

Text on the reverse side

EPIDENDRUM RUBIOI Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Carchi: Tulcán, desviación de la carretera Tulcán-Ibarra hacia El Carmelo, km 27, bajando del Fraylejón al valle, 3200 m, 7 julio 1990, *E. Hágsater 10542, C. H. Dodson [18429], D. Rubio & N. Revelo,* RPSC! Isotype: AMO! (illustration voucher).

Epidendro guacamayensi Hágsater & Dodson simile, sed differt inflorescentia racemosa brevi et labello suborbiculari.

Hierba escandente, ca. 55 cm de alto. **Raíces** delgadas, de los nudos basales de los tallos principales, ca. 1-1.5 mm de grosor. **Tallos** erectos, rectos, teretes, ramificados cerca del ápice cuando maduros, el principal 20-40 x 0.3-0.4 cm, las ramas 3-13 x 0.15-0.25 mm. **Hojas** numerosas, distribuidas a lo largo de los tallos; vaina tubular, estriado-verrucosa, 4-20 mm de largo; lámina angostamente lanceolada, aguda, margen eroso-dentado, graminoide, 1.5-3.5 x 0.4-0.7 cm. **Inflorescencia** terminal, del tallo principal y de las ramas, florece una sola vez, racemosa, nutante; pedúnculo delgado, sin espata ni brácteas basales, 1.5 cm de largo, el raquis en zig-zag. **Brácteas florales** triangulares, acuminadas, agudas, amplexicaules en la base, divergentes del raquis, 5-9 mm de largo. **Ovario** no inflado, 5-7 mm de largo. **Flores** 2-3, sucesivas, desarrollándose una a la vez, verde limón. **Sépalo dorsal** cuculado, entreabierto, ovado-elíptico, obtuso, 3-nervado, 11 x 3.5 mm. **Sépalos laterales** entreabiertos, ovado-elípticos, obtusos, falcados, 3-nervados, 11.5 x 4.5 mm. **Pétalos** entreabiertos, linear-elípticos, agudos, 1-nervados, 9.5 x 0.8 mm. **Labelo** unido a la columna y con los lados involutos, abrazándola completamente en el ápice, entero, carnoso, ecalloso, sin quillas, al extenderse suborbicular, abruptamente agudo, 9 x 9 mm. **Columna** deflexa en la base con respecto al ovario, el ápice totalmente oculto por el labelo, 5 mm de largo. **Antera** ovoide, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas muy cortas; viscidio semilíquido. Rostelo apical, hendido. **Nectario** muy corto, sin penetrar detrás del perianto, papiloso en el fondo y cortamente piloso frente a la cavidad estigmática. **Cápsula** no vista.

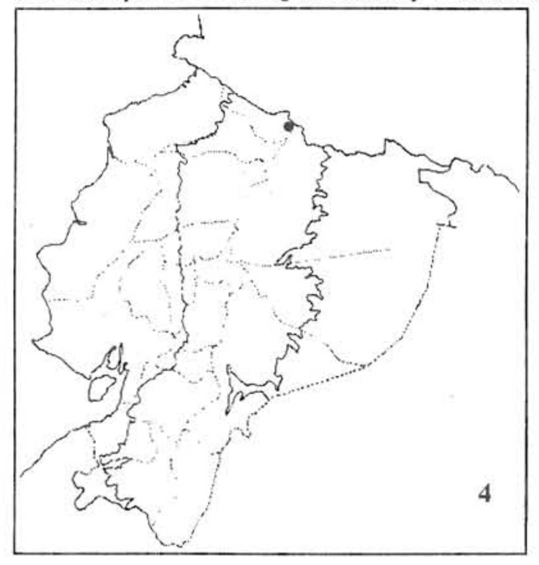
Scandent herb. **Roots** thin, from the basal nodes of the main stems. **Stems** straight, terete, sparsely branching near the apex when mature, branches smaller than the main stem. **Leaves** distributed throughout the stems; sheath tubular, striate-verrucose; blade narrowly lanceolate, acute, margins erose-dentate, graminoid. **Inflorescence** terminal, from the main stem and the branches, flowers only once, nutant, racemose; peduncle thin, without basal spathe or bracts, rachis zigzag. **Floral bracts** triangular, acuminate, acute, amplexicaul at the base, divergent from the rachis. **Ovary** not inflated. **Flowers** 2-3, successive, developing one at a time, lemon green. **Dorsal sepal** cucullate, partly open, ovate-elliptic, obtuse, 3-veined. **Lateral sepals** partly open, ovate-elliptic, acute, falcate, 3-veined. **Petals** linear-elliptic, acute, 1-veined, partly open. **Lip** united to the column and completely embracing it at the apex, entire, fleshy, ecallose, without keels, when flattened suborbicular, abruptly acute. **Column** deflexed at the base. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles very short; viscidium semiliquid. **Rostellum** slit. **Nectary** very short, not penetrating beyond the perianth, papillose at the bottom, shortly pilose in front of the stigmatic cavity.

DISTRIBUTION AND ECOLOGY: Known only from the type, growing on road banks at 3200 m altitude. Flowering in July.

RECOGNITION: Epidendrum rubioi is recognized by the scandent, branching stems with grass-like, narrow leaves with the margins erose-dentate, the apical nutant raceme with 2-3 successive, lemon green, odorless flowers, and the lip completely embracing the column and ending in an abruptly apex. It is closely related to E. guacamayense Hágsater & Dodson, being distinguished by the short racemose inflorescence and the suborbicular, not reniform lip. These species belong to the E. inornatum Schltr. group.

CONSERVATION STATUS: Unknown.

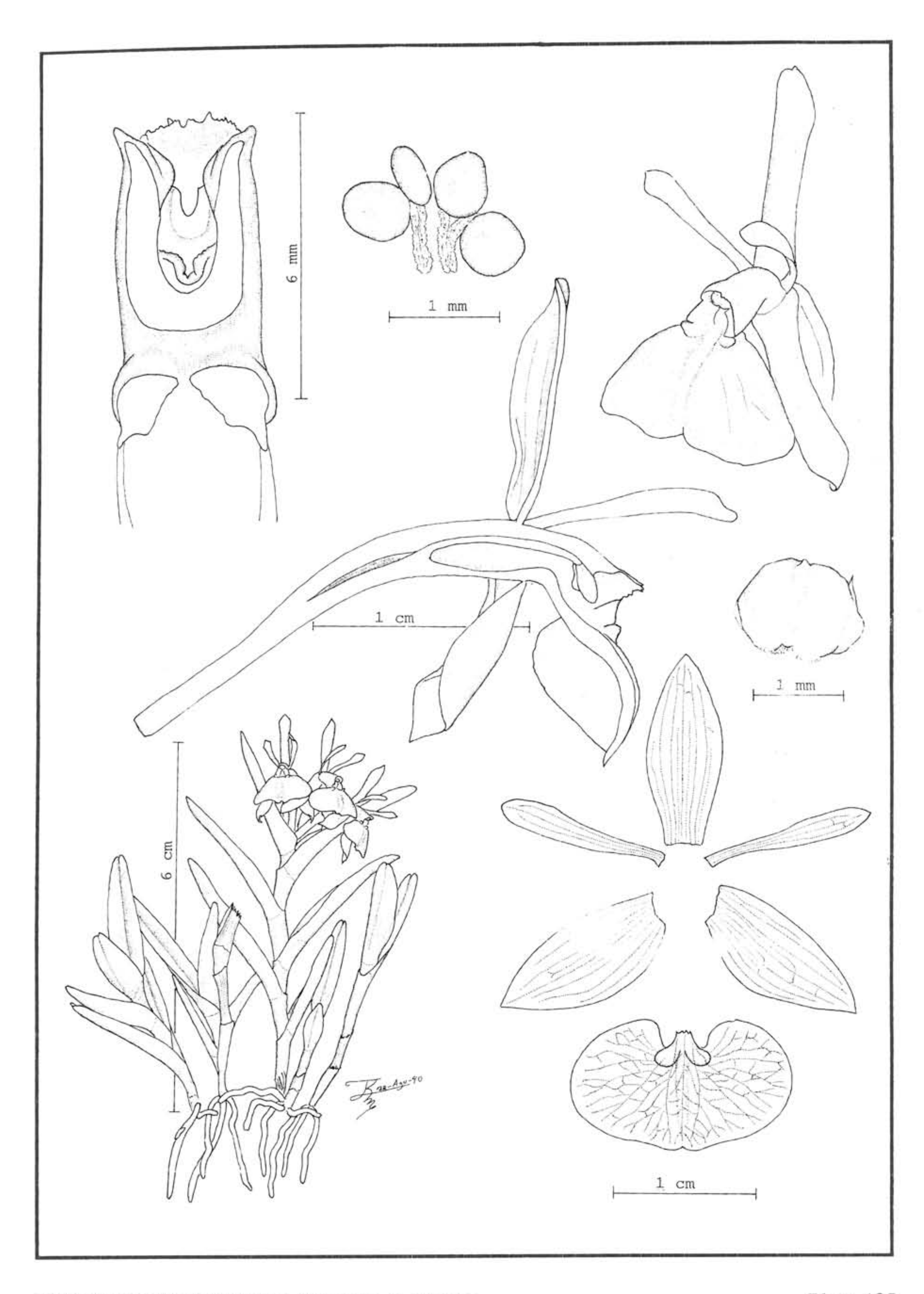
ETYMOLOGY: Named after Daniel Rubio, botanical collector from the University of Ibarra and specialized in local trees, who accompanied us during the field trip where this species was collected.



Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM SCHARFII Hágsater & Dodson

Text on the reverse side

Plate 185

EPIDENDRUM SCHARFII Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Pichincha: Along river and hillside opposite town of Tandapi at km 55 Santo Domingo to Quito road, 31 Dec. 1986, *C. & T. Dodson 16757*, RPSC! Isotype: QCNE!

Epidendro zamorensi Hágsater & Dodson simile, sed differt plantis compactis usque ad 18 cm altis, caulibus erectis et 3-6 foliis anguste ovato-ellipticis.

Hierba epífita, cespitosa, 6-18 cm de alto. **Raíces** basales, carnosas, 0.5-1 mm de grosor. **Tallo** sencillo, tipo caña, terete, flexuoso, 3-15 cm de largo. **Hojas** 3-6, equidistantes a lo largo del tallo, ascendentes; vaina tubular, lisa; lámina angostamente ovado-elíptica, ápice bilobado, margen entero, coriácea, sin carina dorsal, color verde grisáceo, 1.5-6.8 x 0.5-1 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, subumbelada, cortamente pedunculada. **Bráctea** floral ovada, más corta que el ovario, 1-3 mm de largo. **Flores** 3-4, simultáneas, resupinadas, color verde pálido. **Ovario** inflado ligeramente detrás del perianto, terete, no ornamentado, 1.1-2 cm de largo. **Sépalos** elípticos, agudos, los laterales algo oblicuos, extendidos, libres, márgenes revolutos, no ornamentados, subcoriáceos, el dorsal 5-nervado, los laterales 6-nervados, con 3 nervaduras secundarias, 12-14 x 5-7 mm. **Pétalos** membranáceos, angostamente oblanceolados, obtusos, entreabiertos, márgenes extendidos, 3-nervados, 11-12 x 1.5-2 mm. **Labelo** unido a la columna, entero, reniforme, bicalloso, base cordada, ápice ligeramente emarginado, márgenes enteros, 8-11 x 13-16 mm. **Columna** arqueada, gruesa, 6-7 mm de largo. **Clinandrio** prominente, margen dentado-eroso. **Antera** subesférica, papilosa cerca del ápice, 4-locular. **Polinios** 4, subglobosos, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, ligeramente más largas que los polinios; viscidio viscoso, translúcido. **Rostelo** subapical, hendido. **Nectario** penetrando 1/4 del ovario, no ornamentado. **Cápsula** elipsoide-obovoide, 21-27 x 9-11 mm, con pedicelo delgado de 6 x 4 mm, ápice provisto de un pico grueso.

Epiphytic, caespitose herb. **Stem** erect, reed-like, terete, flexuous. **Leaves** 3-6, ascending, narrowly ovate-elliptic, apex bilobed, coriaceous, grayish-green. **Inflorescence** terminal, subumbellate, flowers only once. **Flowers** 3-4, simultaneous, resupinate, pale-green. **Ovary** dilated behind the perianth. **Sepals** ovate-elliptic, acute, 5-6-veined, with several subsidiary veins. **Petals** narrowly oblanceolate, obtuse, 3-veined. **Lip** united to the column, entire, reniform, bicallose, base cordate, apex slightly emarginate. **Column** arcuate. **Clinandrium** prominent, erose-dentate. **Anther** subspherical, the apex somewhat papillose, 4-celled. **Pollinia** 4, subglobose, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent. **Rostellum** subapical, slit. **Nectary** short, penetrating 1/4 of the ovary. **Capsule** ellipsoid, with slender pedicel and stout apical beak.

OTHER SPECIMENS: ECUADOR: Pichincha: Hágsater et. al. 8906, AMO! (illustration voucher.) SEL! Holm-Nielsen et al. 7176, AAU! AMES! COLOMBIA: Boyacá: Lawrance 571, AMES! NY! S! Cundinamarca: García-Barriga 17249, AMES! 17264, AMES! NY! US! 17281, AMES! NY! Ortíz Valdivieso s.n., AMO! Ortíz Valdivieso 4.208, Ortiz Valdivieso pers. herb.!

DISTRIBUTION AND ECOLOGY: Known from Ecuador (Pichincha) and Colombia (Upper Magdalena Valley, in Boyacá and Cundinamarca). On trees and fence-posts near streams, from 1200 to 1700 m altitude. Flowering from November to January and July.

RECOGNITION: This species is a member of the E. difforme Jacq. complex, and can be recognized by the erect, 6-18 cm high stems, 3-4 simultaneous flowers, oblanceolate, 3-veined petals 1.5-2 mm wide, reniform lip with base cordate and apex slightly emarginate, arcuate column, and clinandrium prominent, erose-dentate. It is similar to E. zamorense Hágsater & Dodson which has larger plants and more (11) narrowly oblanceolate leaves.



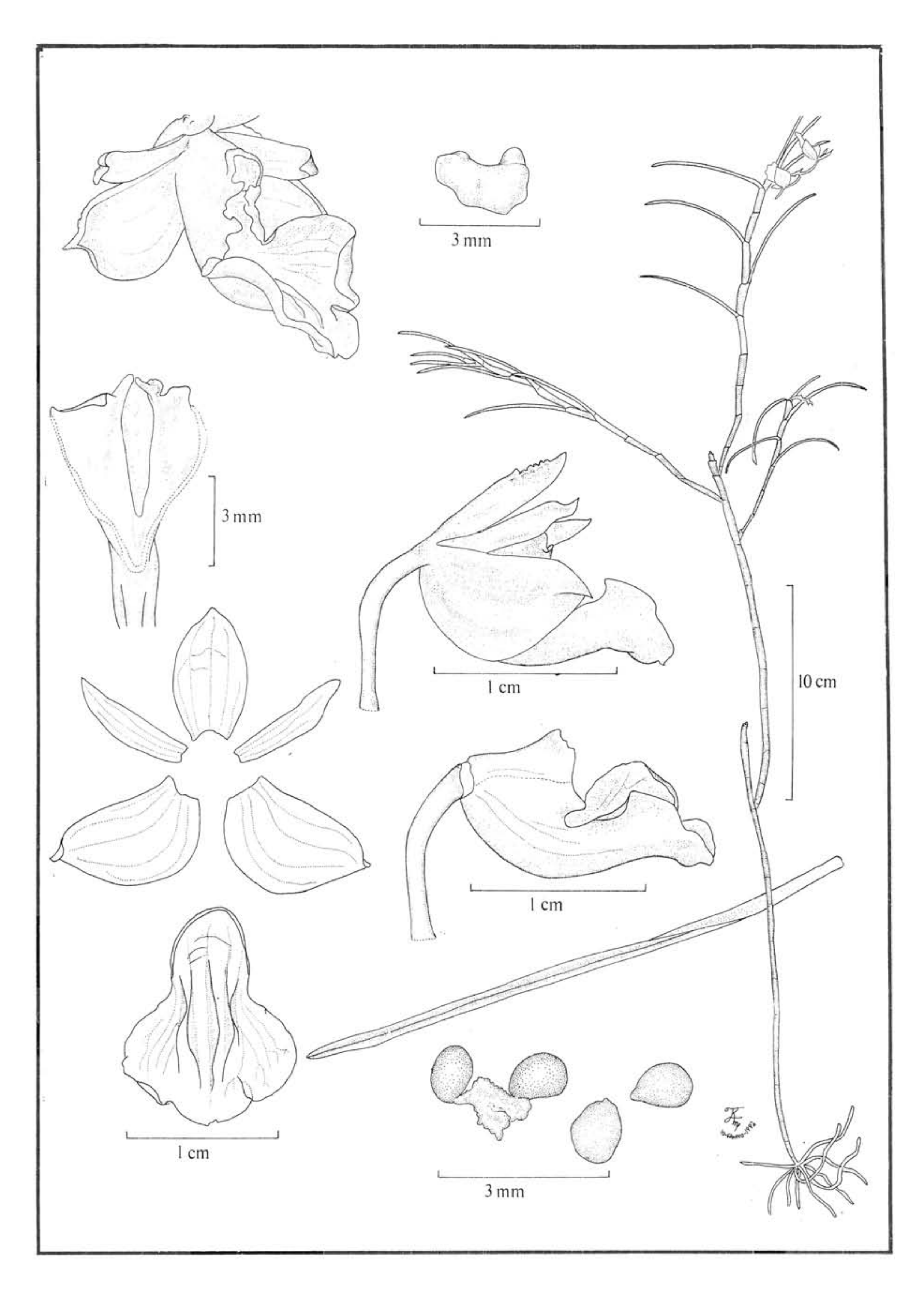
CONSERVATION STATUS: Apparently rare but probably not endangered. Very few specimens have been seen, although they seem to grow in disturbed areas on secondary-growth trees and fence-posts. Around Tandapi this species used to be common but has not been found recently.

ETYMOLOGY: Dedicated to Colonel Paul Scharf, great bird watcher and occasional orchid collector in Quito, Ecuador.

Authors: E. Hágsater & C. H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM STENOPHYLLUM Hágsater & Dodson

Plate 186

Text on the reverse side

EPIDENDRUM STENOPHYLLUM Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Tungurahua: "Ambato", 2000 m, April 1984, *A. Hirtz 1671*, QCNE! (illustration voucher.)

Epidendro lloensi (Lindl.) Hágsater & Dodson simile, sed differt foliis linearibus, acutis, petalis lineari-ellipticis, labello 5-lamellato.

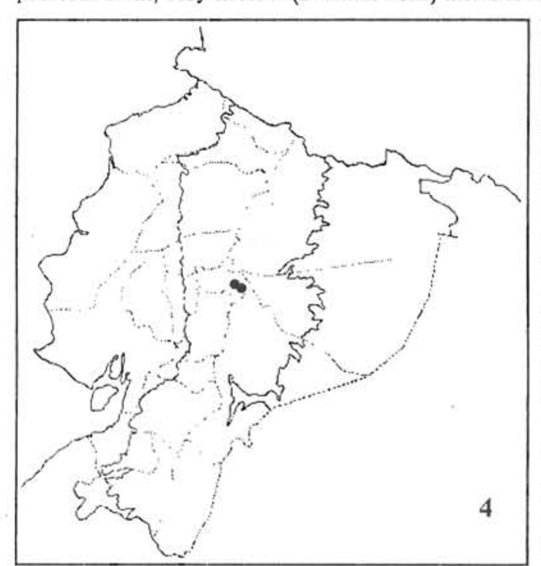
Hierba epífita, de simpodio erecto donde cada tallo nuevo se origina de un entrenudo cerca del ápice del tallo anterior, ca. 55 cm de alto. **Raíces** producidas solamente en la base de la planta, carnosas, 1-2 mm de grosor. **Tallos** ramificados, tipo caña, teretes, rectos, 6-25 cm de largo, 1.5-4 mm de grosor. **Hojas** 5-6, distribuidas en la mitad apical de cada tallo; vaina tubular, estriada y algo rugosa (en seco), hasta 2.5 cm de largo; lámina linear, aguda, margen entero, de consistencia firme, algo arqueada, lisa, 2-5.5 x 0.2-0.3 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, arqueada, 2-3.5 cm de largo; pedúnculo terete, arqueado, no ornamentado, sin espata, a veces con una bráctea linear-triangular, de hasta 13 mm de largo. **Bráctea floral** mucho más corta que el ovario, triangular, acuminada, 2-7 mm de largo. **Flores** 2-12, simultáneas, resupinadas, color morado-pardo, "lobulos de la columna rosados". **Ovario** no inflado, delgado, terete, no ornamentado, 8-10 mm de largo. **Sépalos** entreabiertos, libres, con quilla dorsal inconspicua en los laterales, dorsalmente granulosos, especialmente el dorsal, membranáceos. **Sépalo dorsal** ovado-elíptico, obtuso, márgenes extendidos, 5-nervado, 5-9 x 3.5-5 mm. **Sépalos laterales** oblicuamente ovados, obtusos, márgenes extendidos, 5-nervados, 9-10 x 5-6 mm. **Pétalos** entreabiertos, angostamente linear-elípticos, agudos, márgenes extendidos, membranáceos, 3-nervados, 7-9 x 1.3-2 mm. **Labelo** unido a la columna formando una garganta amplia, entero, transversalmente elíptico en contorno general, membranáceo, ecalloso, con 5 carinas laminares, paralelas desde la base hasta el centro de la lámina, base cuneada, ápice trilobulado, los senos entre los lóbulos poco profundos, margen apical entero a eroso, 10-15 x 9-11.5 mm. **Columna** recurvada, gruesa, dilatada hacia el ápice, obtriangular si se separa del labelo y se extiende, con un diente a cada lado del ápice cerca del margen del labelo, 6-7 mm de largo. **Clinandrio** no prominente, margen irregular. **Antera** reniforme, con una quilla roma al frente, 4-locular, muy plana, poco carnosa. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas. **Rostelo** apical, rajado. **Nectario** muy poco profundo, penetrando hasta la base del perianto, liso interiormente. **Cápsula** no vista.

Epiphytic, branching herb, where each new stem arises from a subapical internode of the previous stem. **Roots** fleshy, from the base of the plant only. **Stems** reed-like, terete. **Leaves** 5-6, distributed on the apical half of the stem; sheath tubular, striate, somewhat rugose; blade linear, acute, of firm consistency. **Inflorescence** terminal, from the mature stem, flowers only once, racemose, arcuate, without spathes. **Floral bract** much shorter than the ovary, triangular, acuminate. **Flowers** simultaneous, resupinate, purplish-brown, "lobes of the column pink". **Ovary** thin, terete. **Sepals** partly open, free, dorsally granulose, especially the dorsal sepal, with a dorsal keel in the laterals. **Dorsal sepal** ovate-elliptic, obtuse, 5-veined. **Lateral sepals** obliquely ovate, obtuse, 5-veined. **Petals** partly open, narrowly linear-elliptic, acute, 3-veined. **Lip** united to the column and forming a wide throat with it, entire, transversely elliptic in outline, ecallose, with 5 parallel lamellae running down to the middle, base cuneate, apex 3-lobulate, sinuses between lobules shallow, apical margin entire to erose. **Column** recurved, thick, dilated toward the apex. **Clinandrium** not prominent, margin irregular. **Anther** reniform, with a low keel in front, 4-celled. **Pollinia** 4, obovoid, laterally compressed, subequal, caudicles soft and granulose. **Rostellum** apical, slit. **Nectary** shallow, penetrating to the base of the perianth only.

OTHER SPECIMENS: ECUADOR: Tungurahua: Hirtz 1612, AMO! Luer et al. 887, RPSC!

DISTRIBUTION: Known only from the upper basin of the Río Pastaza, province of Tungurahua, Ecuador. Epiphyte, from 1800 to 2400 m altitude. Flowering in March and April.

RECOGNITION: Epidendrum stenophyllum has a branching habit, producing new stems from the apical nodes of the previous stem, very narrow (2-3 mm wide) linear leaves, and short, arcuate inflorescence with membranaceous flowers, the lip forming a wide throat with the column, like several other species of Epidendrum which have been regarded as members of the genus Diothonea Lindl. All other known species of this group have much wider leaves. The habit, in pressed specimens, somewhat resembles E. gastropodium Rchb. f., which has much smaller, bright purple flowers. Epidendrum stenophyllum closely resembles E. lloense (Lindl.) Hágsater & Dodson, which has wider leaves and the lip bilamellate at the base.



NOTE: The genus Diothonea has been distinguished from Epidendrum by having an oblique column not united to the lip. The species which have been included in the genus show any intermediate stage of union between lip and column, the sides of the column forming oblique "wings" directed toward the base of the lip. On the other hand, at least one species neatly attributable to Epidendrum (E. dialychilum Hágsater & Dodson) has the lip completely free from the column. All the species described as Diothonea have been found to have the characteristic slit rostellum of Epidendrum.

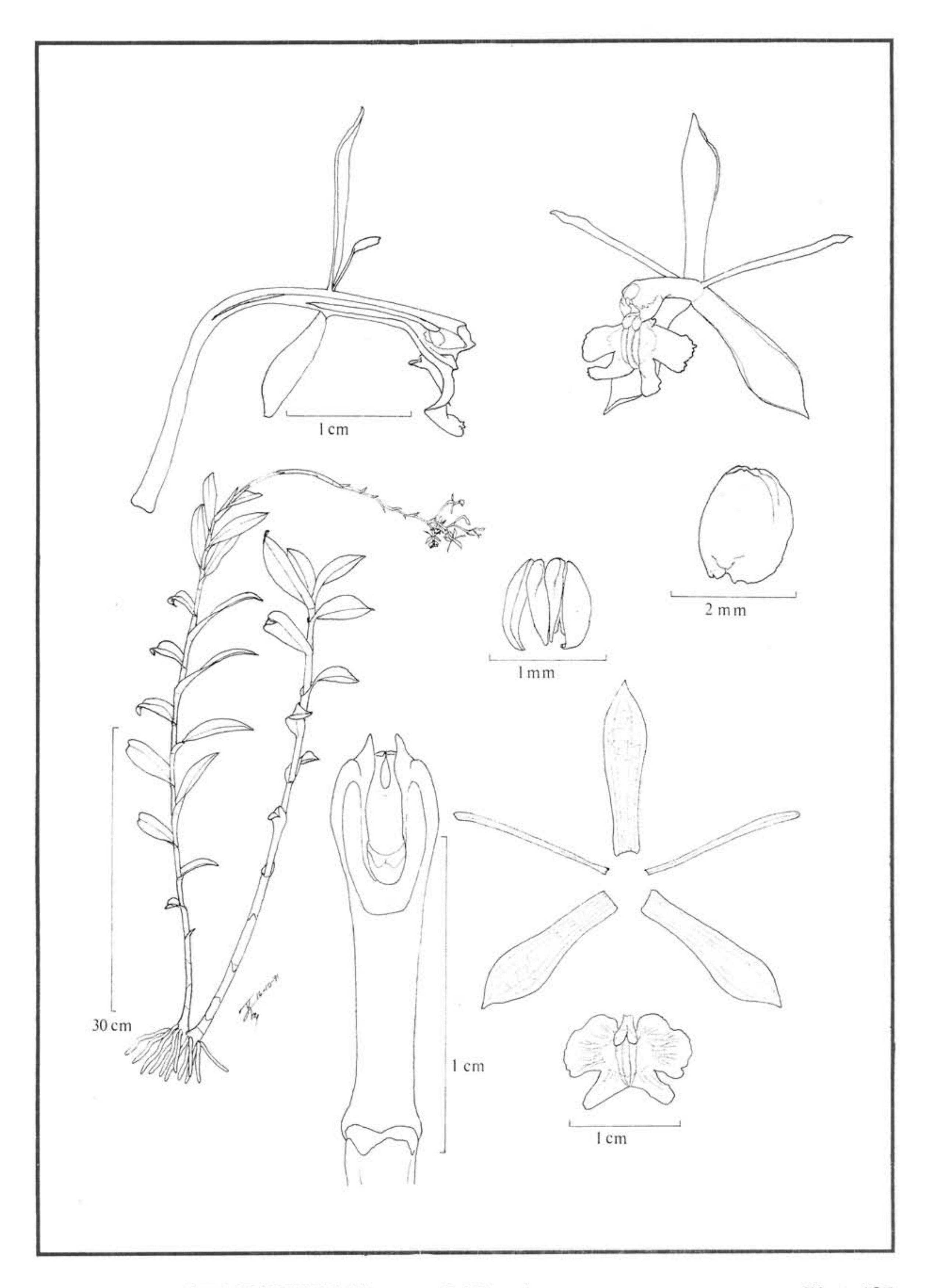
CONSERVATION STATUS: Unknown.

ETYMOLOGY: From the Greek stenos, narrow, and phyllum, leaf, in reference to the characteristicaly narrow leaves of this species when compared to others of the same group.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM SUCCESSIVUM Hágsater & Miranda

Text on the reverse side

Plate 187

EPIDENDRUM SUCCESSIVUM Hágsater *et* Miranda, *sp. nov.*

Holotype: BRAZIL: Bahia: Near Río de Meio, 200 m, cultivated at Río de Janeiro, prepared from cultivated material 10 October 1991, *F. Miranda sub E. Hágsater 10281*, AMO! (illustration voucher.) Clonotypes: 1 December 1991, RB! 18 January 1993, K! 7 February 1993, NY!

Epidendro paniculato Ruiz et Pav. simile, sed differt inflorescentia racemosa, floribus successivis, viridibus, labello cum macula densa purpurea.

Hierba epífita, cespitosa, 30-130 cm de alto. **Raíces** basales, carnosas, 2-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 25-90 cm de largo, 4-7.5 mm de grosor. **Hojas** 7-15, distribuidas en los dos tercios superiores del tallo; vaina tubular, lisa, amoratada, hasta 6 cm de largo; lámina elíptico-lanceolada, aguda, margen entero, lisa, subcoriácea, verde oscuro, algo amoratada cuando joven, 6-12 x 1.2-3 cm. **Inflorescencia** terminal, del tallo maduro, racemosa, recta, florece una sola vez, ocasionalmente a lo largo de varios años del mismo racimo, 15-40 cm de largo; pedúnculo alargado, sin espata, cubierto por numerosas brácteas angostamente ovadas, acuminadas, conduplicadas, las basales tubulares en la base, hasta 5.5 cm de largo; la inflorescencia vieja produce keikis desde el ápice del pedúnculo, formando nuevas plantas con facilidad despues de la floración; en condiciones apropiadas, en lugar de keiki se forma un nuevo racimo. **Flores** 5-22, sucesivas, 3-4 abiertas a la vez, las flores basales seniles cuando los botones apicales son aún pequeños, resupinadas, sin fragancia; sépalos, pétalos y mitad basal de la columna verde manzana, mitad apical de la columna blanca y teñida irregularmente de morado sobre todo hacia los lados del ápice, labelo verde pálido con el disco morado oscuro sólido. **Brácteas florales** semejantes a las brácteas del pedúnculo pero más pequeñas y progresivamente más cortas, triangular-ovadas, acuminadas, 5-18 mm de largo. **Ovario** no inflado, terete, no ornamentado, 20-45 mm de largo. **Sépalos** extendidos, los laterales algo reflexos, libres, sin quilla dorsal, la superficie externa granulosa, carnosos, angostamente espatulado-oblanceolados, agudos, márgenes extendidos, 5-nervados, ocasionalmente con 2 nervios secundarios, 14-16 x 3-4 mm. **Pétalos** extendidos, rectos, angostamente lineares, redondeados, márgenes extendidos, membranáceos, uninervados, 15 x 0.8 mm. **Labelo** unido a la columna, 4-lobado a subentero, cordado en la base, bicalloso, con 3 carinas centrales prominentes, romas, la central llegando hasta el seno apical, 8-10 mm de largo, 11.5 mm de ancho entre los lóbulos basales, 8 mm de ancho entre los lóbulos apicales; lóbulos basales dolabriformes, márgenes irregulares, erosos; lóbulos apicales divergentes casi en ángulo recto, angostos, triangular-subrectangulares, redondeados. **Columna** recta, delgada, 10.5-11.5 mm de largo, terminada en dos dientes laterales agudos. **Clinandrio** obsoleto, margen entero. **Antera** subesférica, 4-locular. **Polinios** 4, tipo "ala de pájaro", fuertemente comprimidos lateralmente, transparentes, los interiores algo menores; caudículas suaves y lisas, ligeramente más cortas que los polinios; viscidio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños, de alrededor de 1/4 del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando hasta la base del perianto, liso interiormente. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stems** simple, reed-like, terete. **Leaves** elliptic-lanceolate, acute, deep green, subcoriaceous; sheath purple. **Inflorescence** terminal, from the mature stem, racemose, straight, flowers only once or sometimes produces either a new raceme or a keiki from the old peduncle; peduncle elongated, covered by many bracts, the lowermost ones tubular at the base, conduplicate above. **Flowers** 5-22, successive, 3-4 open at the same time, the lowermost ones wilting while the apical buds are still very small, resupinate, scentless; sepals, petals and base of column apple green, apex of column white more or less tinged with purple, especially on the apical sides, lip pale green with the disc solid dark purple. **Floral bracts** up to about half as long as the ovary. **Ovary** thin, unornamented. **Sepals** spreading, the laterals somewhat reflexed, fleshy, spatulate-oblanceolate, acute, 5-veined, ocassionally with 2 secondary veins. **Petals** spreading, membranaceous, linear, 1-veined. **Lip** united to the column, 4-lobed to subentire, bicallose, 3-carinate; basal lobes dolabriform, margins irregularly erose; apical lobes divergent, forming an angle of ca. 90°. **Column** straight, slender, with an acute tooth at each side of the apex. **Clinandrium** obsolete. **Anther** subspherical, 4-celled. **Pollinia** 4, "bird-wing" type, strongly compressed, the internal ones smaller; caudicles soft and smooth; viscidium semiliquid. **Rostellum** slit. **Lateral stigma lobes** small. **Nectary** shallow, not penetrating beyond the perianth, smooth inside.



DISTRIBUTION AND ECOLOGY: Known only from the type. Epiphyte, at 200 m altitude. Flowering in October and November (in cultivation), probably throughout the year.

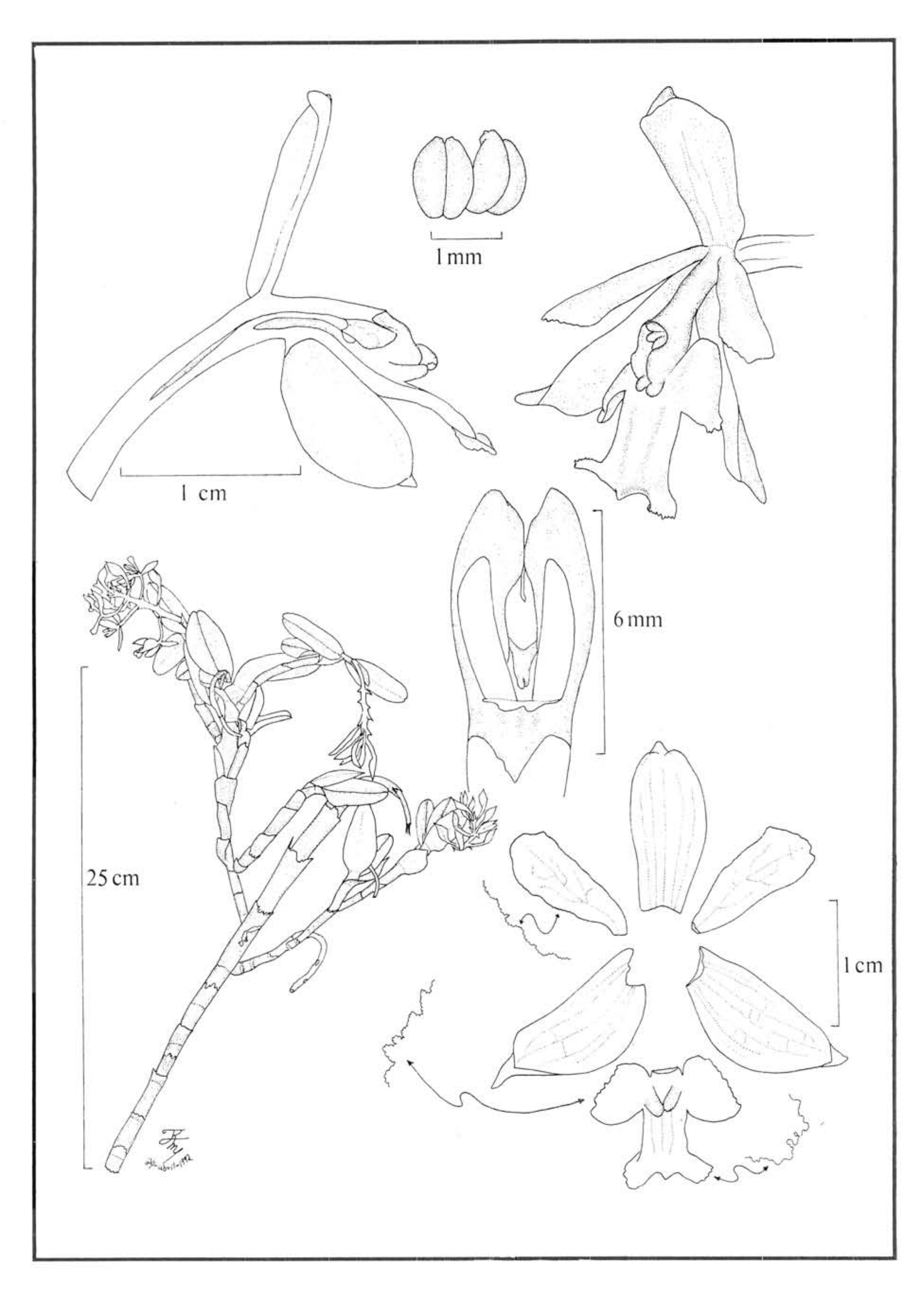
RECOGNITION: The flowers of E. succesivum look like those of most members of the E. paniculatum Ruiz & Pav. group. The plants are distinct in that the stems are not straightly erect but somewhat inclined, the leaves are fleshy, subcoriaceous, the inflorescence is racemose and the peduncle is elongated, with many bracts. The flowers are successive, with the first ones long wilted while the apical buds are still very small, a feature rare in this group but found also in E. atroscriptum Hágsater. E. viridipurpureum Hook. has similarly colored flowers but has a panicle with numerous, simultaneous flowers.

CONSERVATION STATUS: Unknown.

ETYMOLOGY: From the Latin successivus, coming one after the other in an uninterrupted sequence, in reference to the way the flowers open.

Authors: E. Hágsater & F. Miranda Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM SUMACOËNSE Hágsater & Dodson

Text on the reverse side

Plate 188

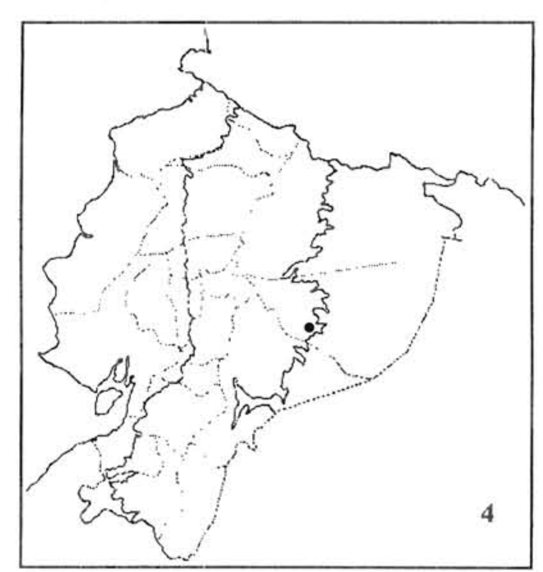
EPIDENDRUM SUMACOËNSE Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Prov. Napo: Cerro Sumaco, loma 315° of summit, 3100-3300 m, 3 May 1979, *L. B. Holm-Nielsen, J. Jaramillo & T. de Vries 17761*, AAU! Isotypes: NY! QCA!

Epidendro pichinchae Schltr. simile, sed differt petalis rotundatis, labelli lobo apicali bilobato, lobis divergentibus, subquadratis.

Hierba terrestre, cespitosa, erecta, ramificada arriba, probablemente de más de 1 m de alto (nuestro ejemplar solo incluye el ápice de un tallo principal ramificado). Tallos erectos, rectos, teretes, ramificados arriba, 7-10 mm de grosor; ramas cortas, 6-12 x 0.5-0.8 cm, con nuevas ramificaciones producidas cerca del ápice, hasta 4 por rama. **Hojas** distribuidas a lo largo del tallo y las ramas, las inferiores caedizas, de manera que pueden encontrarse solo las apicales; vaina tubular, estriada y rugulosa (en seco), terete, ca. 3 cm de largo en el tallo principal, hasta 2 cm de largo en las ramas; lámina ovada, ápice bilobado, subcoriácea, rugulosa en el haz, estriada en el envés (en seco), 15-45 x 1.1-2 cm (las del tallo principal no vistas, probablemente más grandes). **Inflorescencia** terminal en las ramas, florece una sola vez, racemosa, arqueado-colgante, compacta, 3-7 cm de largo, sin espata pero con una bráctea foliácea cerca de la base, obovada, con ápice bilobado, de 5-17 mm de largo; raquis terete, 3-5 cm de largo. **Brácteas florales** triangulares, acuminadas, 4-6 cm de largo. **Ovario** delgado, recto, no inflado, 13-15 mm de largo. **Flores** 10-12, resupinadas, sucesivas, 5 abiertas a la vez, de color blanco cremoso, los sépalos teñidos de rojo y algo punteados por fuera; fragancia similar a la de Hyacinthus. **Sépalo dorsal** extendido, obovado-elíptico, agudo-apiculado, carnoso, 5-nervado, 13 x 6 mm. **Sépalos laterales** entreabiertos, elípticos, agudo-apiculados, algo falcados, carnosos, 5-6-nervados, 15 x 6 mm. **Pétalos** entreabiertos, cuneados, ápice irregularmente redondeado, margen finamente eroso-denticulado, 1-nervados, nervadura ramificada, 12 x 4.5 mm. **Labelo** unido a la columna, trilobado, más ancho entre los lóbulos laterales que entre los lóbulos apicales del lóbulo medio, bicalloso, con una quilla roma, carnosa, recorriendo el centro hasta el ápice, base cordada, 10 x 12 mm; lóbulos laterales oblicuamente ovados, margen exterior eroso-denticulado; lóbulo medio con un istmo recto, alargado, de ca. 3 x 3 mm, el ápice bilobulado, lóbulos divergentes, subcuadrados, margen apical oblicuo y profunda y finamente eroso-denticulado, con un apiculo en el seno apical entre los lóbulos. **Columna** algo deflexa en la base, recta, prolongada a los lados en dos lóbulos redondeados, 9 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** no vista. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas cortas, granulosas; viscidio semilíquido. **Rostelo** hendido. **Lóbulos laterales del estigma** pequeños, de 1/4 del largo de la cavidad estigmática. **Nectario** poco profundo, sin penetrar detrás del perianto, angosto, no ornamentado. **Cápsula** no vista.

Caespitose, subapically branching herb. **Stems** erect, straight, terete; branches much shorter, and themselves branching. **Leaves** distributed along the stems, the lower ones often absent; sheath tubular, striate, rugulose; blade ovate, apex bilobed, subcoriaceous, upper surface rugulose, lower surface striate. **Inflorescence** terminal, from the branches, flowers only once, short, compact, arcuate-pendulous, without spathe, with one foliaceous bract near the base. **Floral bracts** triangular, acuminate. **Flowers** 10-12, resupinate, successive, ca. 5 open at a time, creamy-white, the sepals tinged reddish, slightly spotted outside, fragrant of Hyacinthus. **Dorsal sepal** spreading, obovate-elliptic, acute-apiculate, fleshy, 5-veined. **Lateral sepals** partly open, elliptic, acute-apiculate, somewhat falcate, fleshy, 5-6-veined. **Petals** cuneate, partly open, apex irregularly rounded, margin finely erose-denticulate, 1-veined, vein branching. **Lip** united to the column, 3-lobed, wider between the lateral lobes than between the lobules of the midlobe, bicallose, with a fleshy ridge running down the middle to the apex, base cordate; lateral lobes obliquely ovate, external margin finely erose-denticulate; midlobe bilobed at the apex, with an oblong isthmus, the apical lobules divergent, subquadrate, apical margin oblique and deeply and finely erose-denticulate, the sinus between the lobules apiculate. **Column** somewhat deflexed at the base, straight, ending in a pair of lateral, rounded lobes. **Clinandrium** obsolete. **Pollinia** 4, obovoid, laterally compressed, caudicles short, granulose viscidium semiliquid. **Rostellum** slit.



DISTRIBUTION AND ECOLOGY: Known only from the type. Terrestrial, in montane forest at 3100-3000 m altitude. Flowering from April to June.

RECOGNITION: The subapical branching and 3-lobed lip places E. sumacoënse in the E. cernuum H.B.K. group. It is distinguished from other taxa by the single, branching vein of the cuneate, finely erose-denticulate petals, the lateral lobes of the lip smaller than the midlobe, obliquely ovate, with the external margin erose-denticulate, the midlobe with a long, straight isthmus and two divergent, small, apical, subquadrate lobes with the apical margin oblique and deeply erose-denticulate, and the sinus between them apiculate. Epidendrum sumacoënse is closely related to E. pichinchae Schltr., which has the midlobe of the lip rhombic-ovate, acuminate.

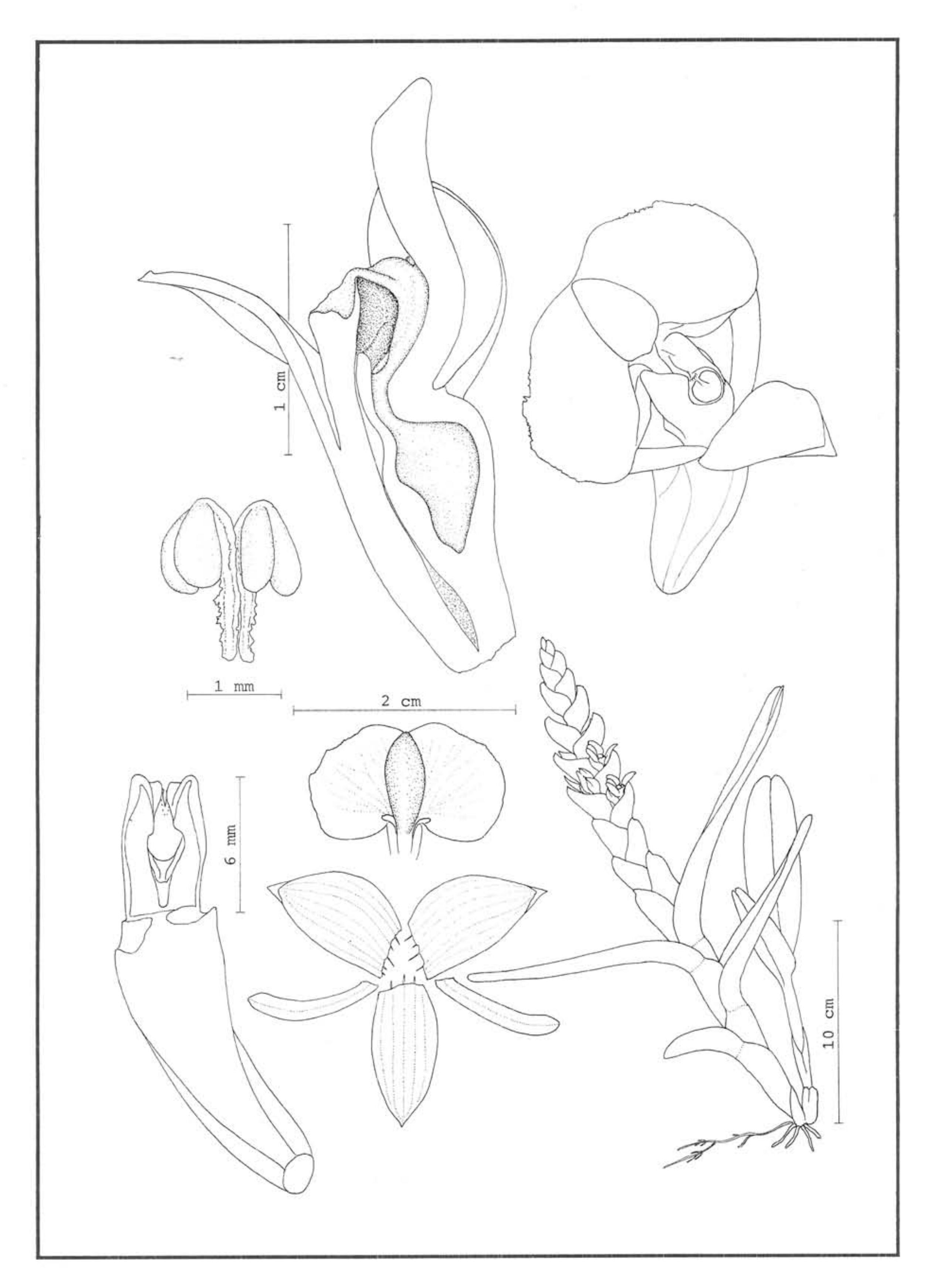
CONSERVATION STATUS: Unknown. The very high altitude of the type locality probably ensures the conservation of the habitat, unless deforestation at lower altitude and in the Amazon basin changes conditions of humidity and rainfall.

ETYMOLOGY: The epithet refers to the type locality, Cerro Sumaco, a high, isolated mountain on the eastern slope of the Eastern Cordillera of the Andes, east of Baeza and somewhat north of Tena.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez **Editors: E. Hágsater & G. A. Salazar**

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EPIDENDRUM SUMMERHAYESII Hágsater

Text on the reverse side

Plate 189

EPIDENDRUM SUMMERHAYESII Hágsater, *sp. nov.*

Holotype: COSTA RICA: Arriba de San Jerónimo en camino a La Hondura, colecta marzo 1982, prensado 3 julio 1982, *Hágsater & Thurston 6662*, AMO! (illustration voucher.) Isotype: CR! Clonotype: 29 junio 1983, K!

Epidendro coriifolio Lindl. simile, sed differt bracteis floralibus late rotundatis, imbricatis, floribus successivis, purpureis.

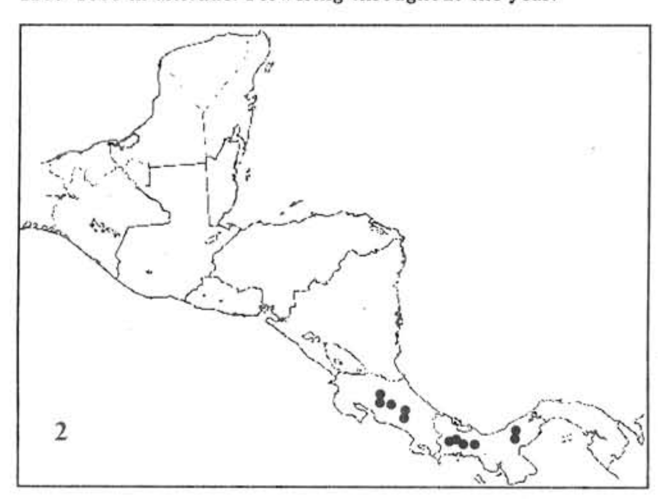
Hierba epífita, cespitosa, 18-32 cm de alto sin incluir la inflorescencia; toda la planta verde olivo, generalmente algo amoratada. **Raíces** basales, carnosas, gruesas, 2-3 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos arriba, rectos, 6-23 x 0.5-1.3 cm. **Hojas**, 2-3 (4), distribuidas en la mitad apical del tallo; vaina tubular, lateralmente comprimida, lisa, hasta 6 cm de largo; lámina angostamente elíptica a sublinear, ápice desigualmente bilobado, margen entero, subcoriácea, lisa, verde, frecuentemente amoratada, hasta 26 x 1.6-2.9 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, dística, racemosa, erecta, 12-25 cm de largo; pedúnculo sin espata, con 1-3 brácteas semejantes a las florales, imbricadas, conduplicadas, de 25-45 mm de largo; raquis lateralmente comprimido, ancipitoso, no ornamentado, en zig-zag. **Brácteas** florales más largas que el ovario, hasta del largo del ovario y el perianto juntos, ovadas, conduplicadas, ápice redondeado, 16-30 mm de largo; en las inflorescencias secas ya sin flores, las brácteas son espaciadas, no imbricadas, algo incurvadas. **Flores** 4-20, sucesivas, 2-5 abiertas a la vez, con fragancia nocturna ligera, verde, desagradable, similar a la de E. coriifolium, de color morado, quilla del labelo y columna verdes. **Ovario** inflado cerca del ápice, terete, no ornamentado, 9-12 mm de largo. **Sépalos** más o menos extendidos, libres, glabros, coriáceos, los laterales con quilla dorsal. **Sépalo dorsal** ovado, agudo, márgenes extendidos, 5-nervado, 12 x 5 mm. **Sépalos laterales** ovados, agudos, márgenes extendidos, 7-nervados, 12 x 7 mm. **Pétalos** entreabiertos, lineares, arqueados, redondeados, márgenes extendidos, 1-nervados, 12 x 2 mm. **Labelo** unido a la columna, entero, reniforme, ecalloso, con una carina central roma, ancha, base ligeramente cordada, ápice truncado, emarginado, márgenes enteros, 9 x 18 mm. **Columna** recta, gruesa, 6 mm de largo. **Clinandrio** obsoleto, entero. **Antera** ovoide, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas suaves y granulosas, ca. dos veces más largas que los polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos** laterales del estigma pequeños, de 1/4 del largo de la cavidad estigmática. **Nectario** profundo, penetrando la mitad del ovario, muy inflado detrás del perianto, liso interiormente. **Cápsula** elipsoide, sésil, ca. 3 x 2 cm.

Epiphytic, caespitose **herb**; all the plant olive-green more or less tinged with purple. **Stem** simple, reed-like, laterally compressed, straight. **Leaves** 2-3, narrowly elliptic to sublinear, apex bilobed, coriaceous. **Inflorescence** terminal, from the mature stem, flowers only once, distichous, racemose, erect; rachis zigzag, laterally compressed, ancipitous. **Floral bracts** longer than the ovary, to as long as ovary and perianth together, conduplicate, rounded, incurved. **Flowers** 4-20, successive, 2-5 open a a time, purple, the column and the keel of the lip green, with nocturnal, weak, disagreeable fragrance. **Ovary** inflated towards the apex. **Sepals** ovate, acute, the lateral ones dorsally keeled, 5-7-veined. **Petals** linear, rounded, 3-veined. **Lip** united to the column, entire, reniform, ecallose, with a low, central, rounded keel, base somewhat cordate, apex emarginate. **Column** straight. **Clinandrium** obsolete. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed, subequal; caudicles soft and granulose, slightly longer than the pollinia; viscidium semiliquid, transparent. **Rostellum** slit. **Nectary** deep, penetrating half the ovary, inflated behind the perianth. **Capsule** ellipsoid, sessile.

OTHER SPECIMENS: COSTA RICA: Endres 202, W! Lankester 507, AMES! Maxon & Harvey 8111, US! Stork 2094, AMES! 2237, AMES! **Alajuela:** Brenes (50) 1632, AMES! CR! (69) 1278, F! Smith H1054, AMES! K! SEL! Taylor [450] sub DeWolf 464, AMES! **Cartago:** Burger & Gentry 9213, F! Horich sub Hágsater 6910, AMO! SEL! 8466, AMO! Standley 35952, AMES! F! US! 33757, AMES! 33777, AMES! 41463, AMES! US! **Heredia:** Lent 3557, F! **San José:** Standley 36530, AMES! 37905, AMES! US! **PANAMA: Chiriquí:** Antonio 5009, AMO! Davidson 245, AMES(x2)! F! MO! Dressler 5122, AMO! 5394, AMO! Hágsater & Dressler 6583, AMO! NY! Powell 3394, AMES 27529! (not other specimens numbered as Powell 119, which represent the type collection of E. allochronum Hágsater.) **Coclé:** Dunn 7, K! MO(x2)! UC(x2)! US(x2)!

OTHER RECORDS: Watercolor No. 264 of Rafael Lucas Rodríguez, xerox and color slide, AMO!

DISTRIBUTION AND ECOLOGY: Widespread and common in wet forests in Costa Rica and western Panama, at ca. 1200-1800 m altitude. Flowering throughout the year.



RECOGNITION: Epidendrum summerhayesii is distinguished from E. coriifolium Lindl. by the rounded floral bracts, deep olive-green plants tinged with purple, and successive, usually purple flowers. E. palmense Ames has acute floral bracts and green flowers; E. caluerorum Hágsater has narrow leaves and acute, subparallel floral bracts about as long as the ovary; E. allochronum Hágsater has successive flowers and spreading, rounded bracts; E. fuscopurpureum Schltr. has semiterete leaves; and E. subviolascens Schltr. has acute bracts and narrow leaves.

CONSERVATION STATUS: Unknown.

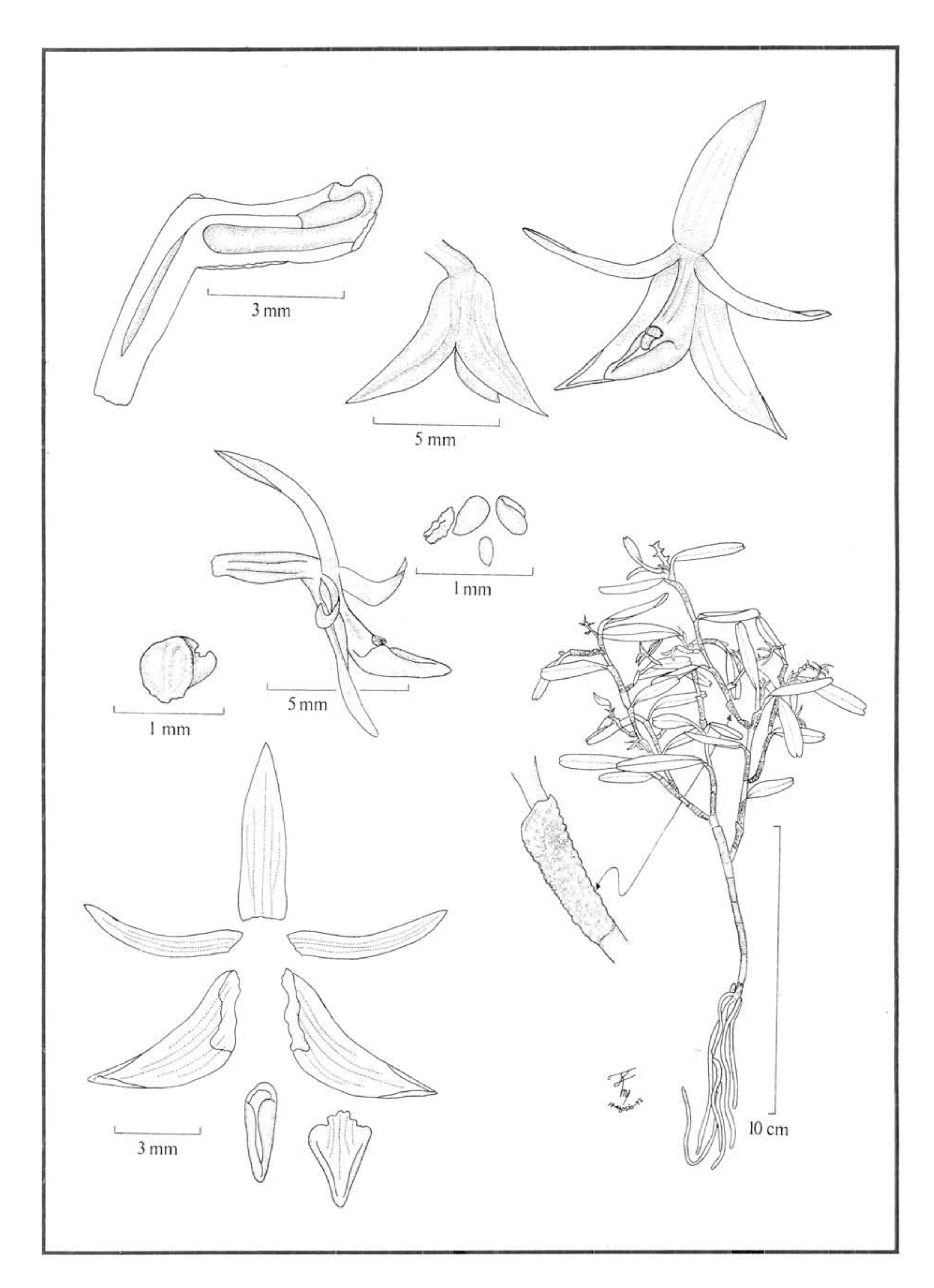
ETYMOLOGY: Dedicated to Dr. Victor S. Summerhayes, who published a good illustration and description of this species, as E. coriifolium Lindl.

REFERENCE: Summerhayes, V.A. 1938. Bot. Mag. 160: t. 9477.

Author: E. Hágsater Ilustrator: E. Hágsater Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM SUTURATUM Hágsater & Dressler

Plate 190

Text on the reverse side

EPIDENDRUM SUTURATUM Hágsater *et* Dressler, *sp. nov.*

Holotype: PANAMA: Veraguas: ridge east of Cerro Tute, NW of Santa Fé, 800-1000 m elev., 12 October 1975, *R. L. Dressler 5187*, AMO! (illustration voucher.) Isotype: AMES!

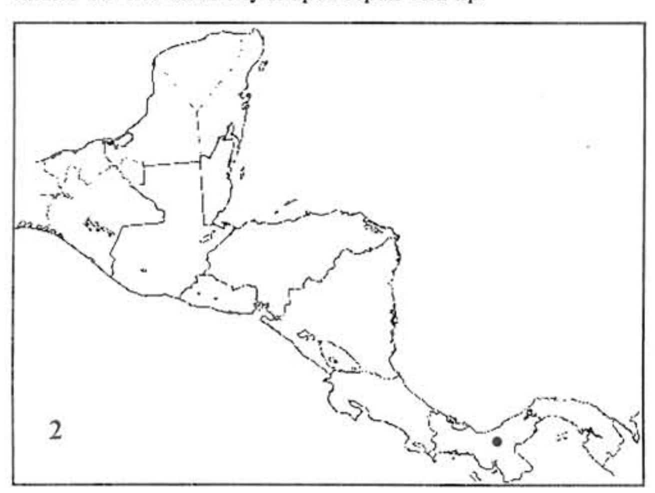
Epidendro curvisepalo Hágsater & Dressler simile, sed differt sepalis lateralibus infra medio connatis et cum labello adnatis, 5-nervibus, petalis 3-nervibus, columna longiore, arcuata.

Hierba epífita, erecta, 20-30 cm de alto. **Raíces** producidas en los entrenudos inferiores del tallo basal, carnosas, 1-1.5 mm de grosor. **Tallos** ramificados, tipo caña, flexuosos, teretes; de los entrenudos basales o intermedios del tallo principal se producen varias ramas, y de éstas se producen ramas secundarias, más cortas, en las que se produce la floración y generalmente pueden producir uno o varios crecimientos cortos cerca del ápice; los tallos principales 15-30 x 0.15-0.3 cm, las ramas más pequeñas, 2-10 x 0.15-0.3 cm. **Hojas** 3-8 por tallo, distribuidas a lo largo de cada tallo; vaina tubular, verrucosa, 0.6-2.2 cm de largo; lámina angostamente elíptica, ápice desigualmente bilobado, margen entero, subcoriácea, lisa; las de los tallos principales más grandes, 3-4 x 0.4-0.7 cm, las de las ramas menores, 1.2-2 x 0.3-0.5 cm. **Inflorescencia** terminal en las ramas, florece una sola vez de un punto determinado, pero las ramas producen nuevas ramas subapicales que florecen, racemosa, erecta, 1.2-2 cm de largo; pedúnculo no ornamentado, sin espata, sin bráctea basal; raquis en zig-zag. **Bráctea floral** más corta que el ovario, ovada, aguda, 2-3 mm de largo. **Flores** (2) 4-5, sucesivas, varias abiertas a la vez, la basal ya marchita cuando se abre el último botón, color verde pálido-pardo, ápice de la columna amoratado; los botones florales oblicuos, recurvados cerca de la base, formando un ángulo de cerca de 90 °. **Ovario** no inflado, terete, no ornamentado, 3-6 mm de largo. **Sépalo dorsal** extendido, lanceolado, agudo, con quilla dorsal apical, glabro, carnoso, márgenes extendidos, 3-nervado, los nervios laterales bifurcados, 6-7 x 1.7 mm. **Sépalos laterales** extendidos, connados en la base y adnados al labelo en la parte de éste que está unida a la columna, lanceolados, agudos, claramente falcados, con quilla dorsal apical, glabros, carnosos, márgenes extendidos, 5-nervados, 6-7 x 2.1 mm. **Pétalos** extendidos, linear-lanceolados, agudos, algo falcados, márgenes extendidos, 3-nervados, 6 x 0.8 mm. **Labelo** unido a la columna, entero, suculento, ecalloso, los lados involutos en posición natural, triangular, ángulos basales redondeados, ápice agudo, 3 x 2.4 mm al extenderse. **Columna** deflexa respecto al ovario, ligeramente recurvada, gruesa, con una prominencia redondeada a cada lado del ápice, ca. 4 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** reniforme, 4-locular. **Polinios** 4, semiobovoides, lateralmente comprimidos, desiguales; caudículas suaves y granulosas, más cortas que los polinios; viscidio semilíquido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** obsoletos. **Nectario** poco profundo, sin penetrar más allá del perianto, no ornamentado, amplio. **Cápsula** no vista.

Epiphytic, erect, branching herb. **Roots** from the base of the plant only, fleshy. **Main stem** short, producing branches from the lower or middle internodes; secondary or flowering branches are produced from the upper internodes, which may produce further branches from subapical internodes. **Leaves** with a verrucose sheath; blade narrowly lanceolate, unequally bilobed, those on the main stems larger than those on the branches. **Inflorescence** terminal, from the branches, flowering only once, erect, zigzag. **Flowers** 2-5, successive, several open at the same time, pale brownish-green, apex of the column purplish. **Sepals** spreading, lanceolate, acute, fleshy; dorsal 3-veined, with bifurcate lateral veins; laterals 5-veined, clearly falcate, connate at the base and adnate to the portion of the lip united to the column. **Petals** linear-lanceolate, acute, 3-veined. **Lip** united to the column, entire, ecallose, triangular, basal angles rounded, apex acute, the sides involute in natural position. **Column** stout, deflexed with respect to the ovary, slightly recurved, with a rounded process at each side of the apex. **Clinandrium** obsolete. **Anther** reniform. **Pollinia** 4, semiobovoid, laterally compressed, unequal; caudicles soft and granulose, short; viscidium semiliquid. **Nectary** shallow, not penetrating beyond the perianth.

DISTRIBUTION AND ECOLOGY: Known only from the type. Epiphyte, in cloud forest at 800-1000 m altitude. Flowering in October.

RECOGNITION: Epidendrum suturatum is closely related to E. curvisepalum Hágsater & Dressler, but is immediately distinguished by the connate lateral sepals, which are adnate to the portion of the lip united to the column and clearly divergent even in dried material, the triangular lip with basal angles rounded, the linear-lanceolate, 3-veined, petals, and the longer column terminating in a broad, rounded process on each side of the apex. Epidendrum rugosum Ames is also similar but has distinctly shaped sepals and lip.



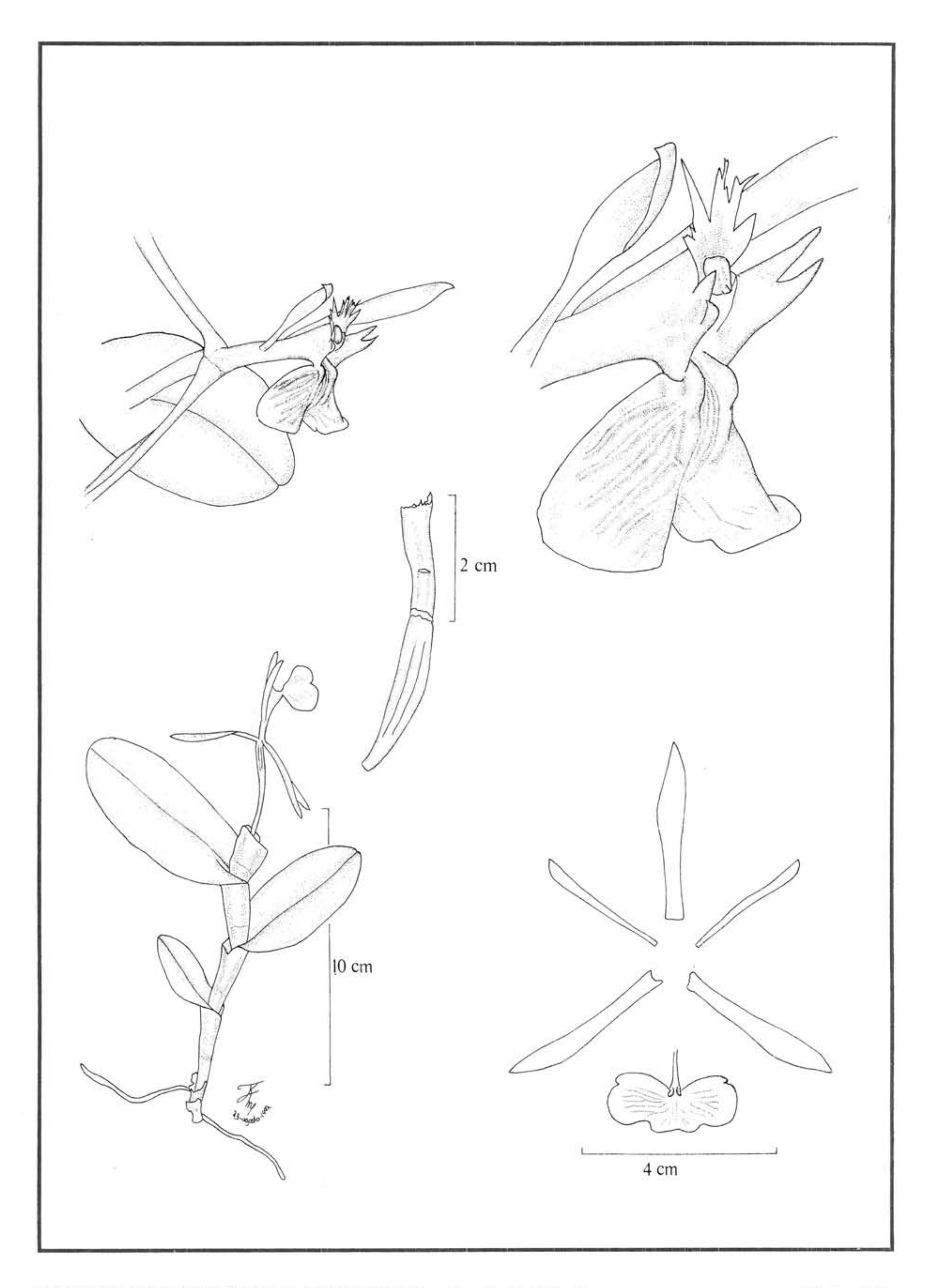
CONSERVATION STATUS: Unknown.

ETYMOLOGY: From the Latin sutura, a seam, in reference to the connation between the lateral sepals characteristic of this species, and which immediately sets it apart from its relatives.

Authors: E. Hágsater & R. L. Dressler Illustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM SYMPETALOSTELE Hágsater & L. Sánchez **Plate 191**

Text on the reverse side

EPIDENDRUM SYMPETALOSTELE Hágsater *et* L. Sánchez, *sp. nov.*

Holotype: COLOMBIA: Antioquia, San José del Nus, "El Socorro", 1 December 1972, ca. 1500 m, *P. Ortíz Valdivieso 603 & S. Restrepo*, P. Ortíz Valdivieso pers. herb.! (illustration voucher, plant, side view of column and ovary and floral dissection.)

Epidendro latilabro Lindl. simile, sed differt petalis usque ad partem medianam columnae adnatis, columnae apice utrinque lobis prominentibus bifidis, clinandrio prominentissimo irregulariter laciniato.

Hierba epífita, cespitosa, ca. 17 cm de alto. **Raíces** basales, carnosas, 0.5-1 mm de grosor. **Tallo** sencillo, tipo caña, fuertemente comprimido lateralmente, flexuoso, ca. 11 cm de largo. **Hojas** 3-4, equidistantes a lo largo del tallo; vaina lateralmente comprimida, lisa; lámina subcoriácea, angostamente elíptica, retusa, márgenes enteros, extendidos, sin carina dorsal, 3.5-7.5 x 1-3 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, sésil. **Bráctea floral** mucho más corta que el ovario. **Flores** 1-3, simultáneas, resupinadas, verdes. **Ovario** terete, ligeramente engrosado arriba de la mitad, no ornamentado, 28-37 mm de largo. **Sépalos** ligeramente reflexos, subcoriáceos, libres, glabros. **Sépalo dorsal** angostamente oblanceolado, agudo, márgenes enteros, revolutos, 5-nervado, 35-42 x 3-5 mm. **Sépalos laterales** oblicuamente oblanceolados, agudos, márgenes enteros, revolutos, 5-nervados, con numerosas nervaduras secundarias, 35-42 x 3-5 mm. **Pétalos** suberectos, membranáceos, adnados a la columna hasta cerca de la mitad de la longitud de ésta, linear-espatulados, agudos, márgenes enteros, ligeramente extendidos, 3-nervados, 27-30 x 1-2 mm. **Labelo** unido a la columna, transversalmente oblongo en forma general, someramente trilobado, bicalloso, los callos pequeños, subglobosos, base cordada, disco con tres quillas centrales y varias venas engrosadas, las quillas laterales continuas con los callos, 10 x 26 mm; lóbulos laterales semiorbicular-subcuadrados, con una muesca marginal hacia la base; lóbulo medio corto y muy amplio, somera y ampliamente emarginado, con un mucrón poco evidente en el ápice. **Columna** recta, 20-27 mm de largo incluyendo el clinandrio, con una prominencia bífida a cada lado del ápice, ésta variable en longitud. **Clinandrio** muy prominente, irregularmente lacinado. **Antera** subesférica, 4-locular. **Polinios, caudículas, viscidio, rostelo, nectario y cápsula** no vistos.

Epiphytic, caespitose herb. **Stems** strongly compressed laterally, flexuous. **Leaves** narrowly elliptic, retuse. **Inflorescence** terminal, sessile. **Flowers** 1-3, simultaneous, resupinate, green. **Ovary** somewhat dilated above the middle, terete, unornamented. **Sepals** somewhat reflexed, subcoriaceous, free, glabrous. **Dorsal sepal** narrowly oblanceolate, acute, margin entire, revolute, 5-veined. **Lateral sepals** obliquely oblanceolate, acute, margin entire, revolute, 5-veined, with numerous secondary veins. **Petals** suberect, membranaceous, adnate to the basal half of the column, linear-spatulate, acute, margin entire, 3-veined. **Lip** united to the column, subcoriaceous, transversely oblong, shallowly 3-lobed, bicallose, the calli small, subglobose, disc with 3 central keels and several thickened veins, base cordate; lateral lobes semiorbicular-subquadrate, with a conspicuous marginal notch near the base; midlobe short and very wide, broadly and shallowly emarginate, with a obscure mucro in the sinus. **Column** straight, with a bifid prominence at each side of the apex. **Clinandrium** very prominent, irregularly laciniate. **Anther** subspherical, 4-celled.

OTHER SPECIMENS: COLOMBIA: Dodson & Hills 3220, SEL!

OTHER RECORDS: COLOMBIA: Without locality, cult. A. Niessen, transparency AMO! (illustration voucher, lateral view of flower and close up of lip and column.)

DISTRIBUTION AND ECOLOGY: Known only from Colombia. Epiphyte, at about 1500 m altitude. Flowering apparently throughout the year.

RECOGNITION: Epidendrum sympetalostele is one of the most distinctive members of the E. difforme Jacq. complex, and can be easily recognized by the suberect petals which are adnate to the column such that they appear to arise from the middle of it, and by the transversely oblong, shallowly 3-lobed lip with three central keels on the disc and several thickened lateral veins, the lateral lobes with a conspicuous notch near the base, the midlobe short and very wide, shallowly and broadly emarginate and with a minute mucro in the sinus. Also definitive are the prominent, bifid lobes at the sides of the column apex, and the very prominent clinandrium which is irregularly laciniate.



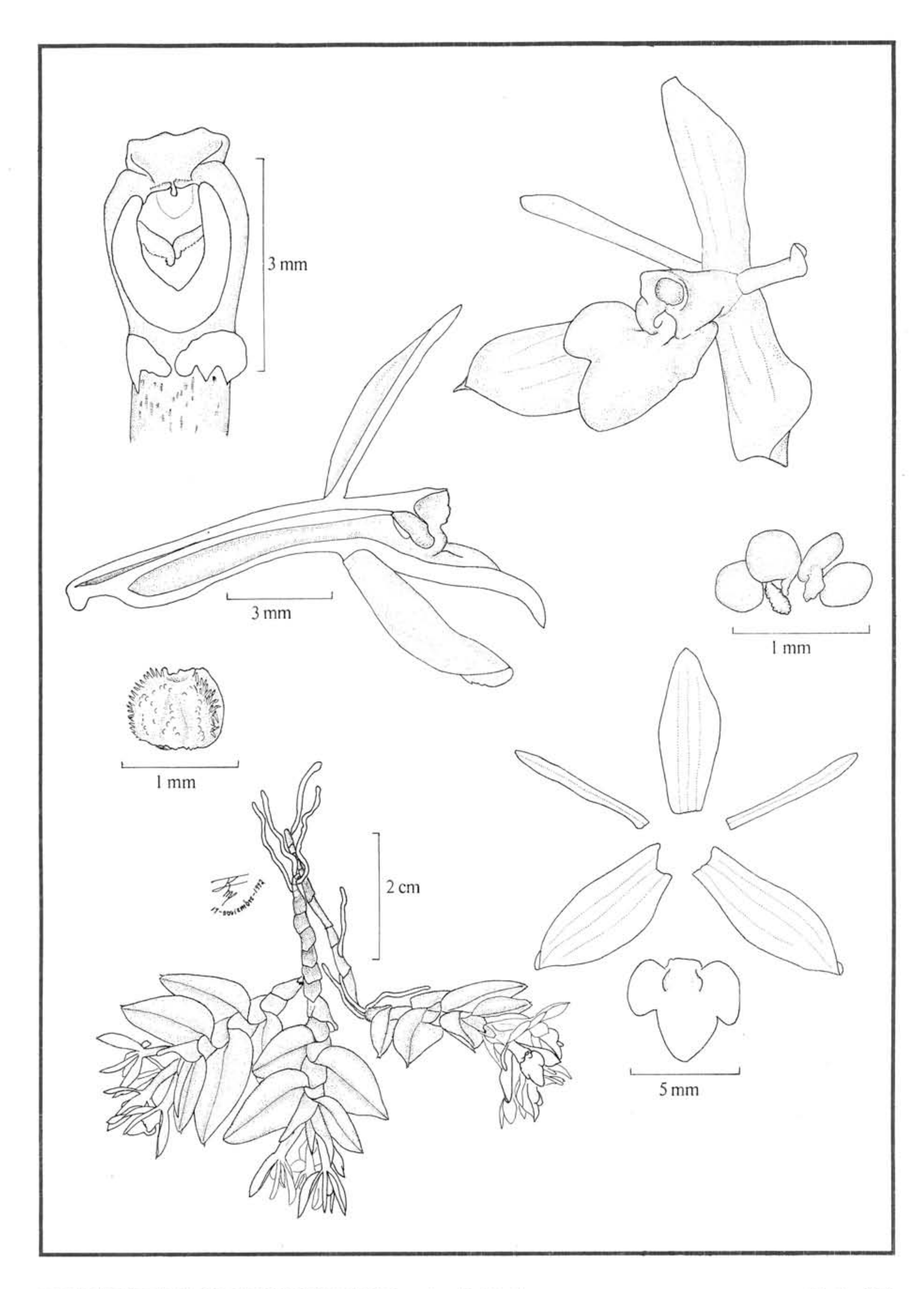
CONSERVATION STATUS: Undetermined.

ETYMOLOGY: The epithet is derived from the Greek words petalon, petal, and stele, column or cilinder, plus the prefix sym-, indicating union or fusion, in reference to the adnation of petals and column that characterize this species.

Authors: E. Hágsater & L. Sánchez Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM THELEPHORUM Hágsater & Dodson

Text on the reverse side

EPIDENDRUM THELEPHORUM Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Sucumbíos: Santa Bárbara, km 66.5 desviación de la carretera Tulcán-Ibarra hacia La Bonita, después de Santa Bárbara, unos 500 m antes del puente, 1990 m, colecta 8 julio 1990, prensado en cultivo 19 noviembre 1992, *E. Hágsater 10553, C.H. Dodson, D. Rubio y N. Revelo*, QCNE! (illustration voucher.) Clonotypes: 19 junio 1991, AMO! SEL!

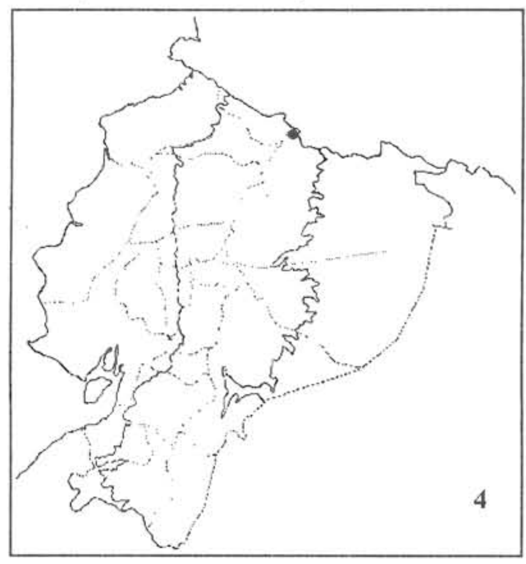
Epidendro nanopsi Dodson & Hágsater simile, sed caulibus brevioribus, labelli lobo mediano latitudine quam longitudine aequanti, clinandrio aliquantum prominenti, columna papillis prominentibus vestita.

Hierba epífita, colgante, 3-12 cm de largo. Raíces filiformes, producidas en la porción basal del tallo principal, 0.5 mm de grosor. Tallos sencillos, horizontales a colgantes, foliosos cuando jóvenes, lateralmente comprimidos, produciendo tallos nuevos de la parte intermedia del tallo anterior, 2.5-10 cm de largo. **Hojas** distribuidas a todo lo largo de los tallos, verdosas, ligeramente teñidas o punteadas de rosado; vaina tubular, ancipitosa, evanescente, dilatada hacia el ápice, 3-7 x 2.4-4 mm; lámina ovada, algo oblicua, aguda o desigualmente bilobada en el ápice, margen apical eroso a fimbriado, subcoriáceo-suculenta, hasta 15 x 7.5 mm. **Inflorescencia** terminal, subumbelada, colgante, florece una sola vez, sin espata ni brácteas. **Bráctea floral** carinada, angostamente ovada, de un poco más corta hasta un poco más larga que el ovario, 5-9 x 3-6 mm. **Flores** 4, simultáneas, verdosas con ligeros tintes rosados, la antera verde. **Ovario** inflado ventralmente en casi toda su longitud, 7-8 mm de largo. **Sépalos** extendidos, elípticos, agudos, los laterales con una quilla dorsal apical erosa, 3-nervados, 8 x 3 mm. **Pétalos** extendidos, lineares, obtusos, 1-nervados, 12 x 0.8 mm. **Labelo** unido a la columna, trilobado, carnoso, bicalloso, callos triangulares, bajos, en total 5 x 5.5 mm; lóbulos laterales semiovados, redondeados, márgenes enteros; lóbulo medio ovado, redondeado, tan ancho como largo. **Columna** recta, 3 mm de largo. **Clinandrio** ligeramente prominente, eroso, carnoso. **Antera** subesférica, prominentemente papilosa al frente, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas granulosas, de longitud semejante a la de los polinios; viscidio semilíquido, transparente. **Rostelo** apical, hendido, amplio. **Lóbulos laterales del estigma** aparentemente obsoletos. **Nectario** muy profundo, penetrando casi todo el ovario, algo inflado y correspondiendo a la vesícula ventral. **Cápsula** no vista.

Epiphytic, pendent herb. Roots filiform, from the basal portion of the stem. **Stems** simple, laterally compressed, completely covered by evanescent, ancipitous sheaths, the new stems produced from the middle of the previous stem. **Leaves** distributed along the stem, greenish with pink tinge or dots; sheath tubular, ancipitous; blade ovate, acute or apically bilobed, apical margin erose to fimbriate, subcoriaceous-succulent. **Inflorescence** terminal, subumbellate, flowers only once, without spathe or bracts. **Floral bracts** dorsally carinate, ovate, acuminate, slightly shorter to slightly longer than the ovary. **Flowers** 4, simultaneous, greenish with a very faint purple tinge. **Ovary** inflated ventrally nearly its entire length. **Sepals** spreading, elliptic, acute, 3-veined. **Petals** spreading, linear, obtuse, 1-veined. **Lip** united to the column, 3-lobed, fleshy, bicallose, calli triangular, low; lateral lobes semiovate, rounded; midlobe ovate, rounded, about as long as wide. **Column** straight. **Clinandrium** slightly prominent, erose, fleshy. **Anther** subspherical, prominently papillose in front, 4-celled. **Polinia** 4, obovoid, laterally compressed, with granulose caudicles; viscidium semiliquid. **Rostellum** apical, slit. **Lateral stigma lobes** apparently obsolete. **Nectary** very deep, penetrating nearly the whole length of the ovary, somewhat prominent and corresponding to the ventral vesicle of the ovary.

DISTRIBUTION AND ECOLOGY: Presently known only from the type locality, but may be more widespread. Epiphyte in wet, well ventilated forests at around 2000 m altitude. Flowering from May to July. It grows sympatrically with E. bonitense Hágsater & Dodson.

RECOGNITION: Epidendrum thelephorum belongs to the E. nanum C. Schweinf. group and is closely related to Epidendrum nanopsis Dodson & Hágsater, from which it can be distinguished by the shorter stems, the somewhat larger flowers, the midlobe of the lip ovate and about as long as wide, the more prominent clinandrium and the prominently papillose anther.



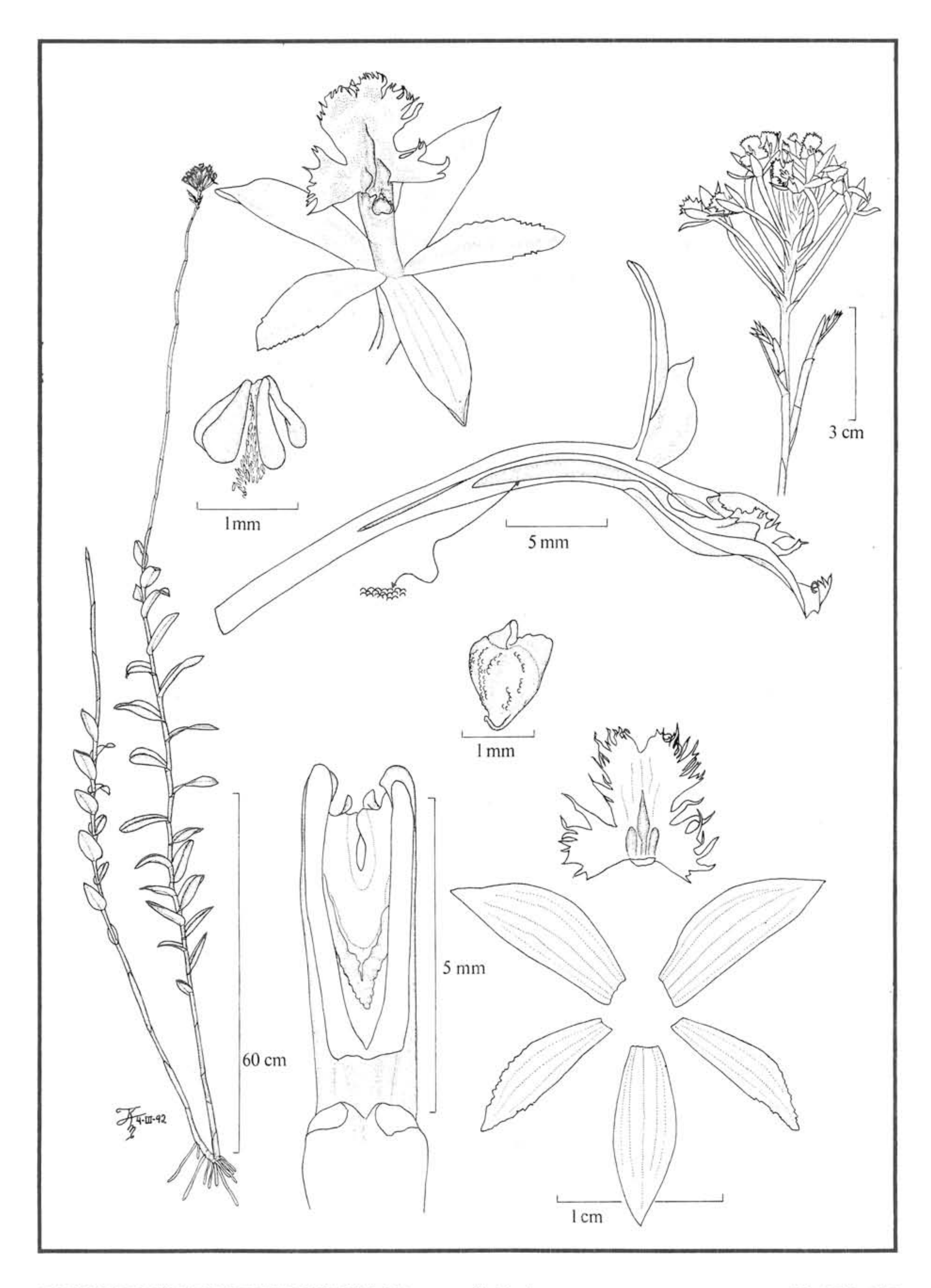
CONSERVATION STATUS: Unknown.

ETIMOLOGY: From the Greek thele, nipple, and phorum, bearing, in reference to the prominently papillose anther.

Authors: E. Hágsater & C.H. Dodson   Ilustrator: R. Jiménez   Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM THERMOPHILUM Hágsater & Dodson

Text on the reverse side

PLATE 193

EPIDENDRUM THERMOPHILUM Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Prov. Imbabura: km 55.7 camino a Lita, 910 m, colecta 12 julio 1990, prensado 4 marzo 1992, *E. Hágsater 10739, C. H. Dodson, D. Rubio & N. Revelo*, QCNE! (illustration voucher.)

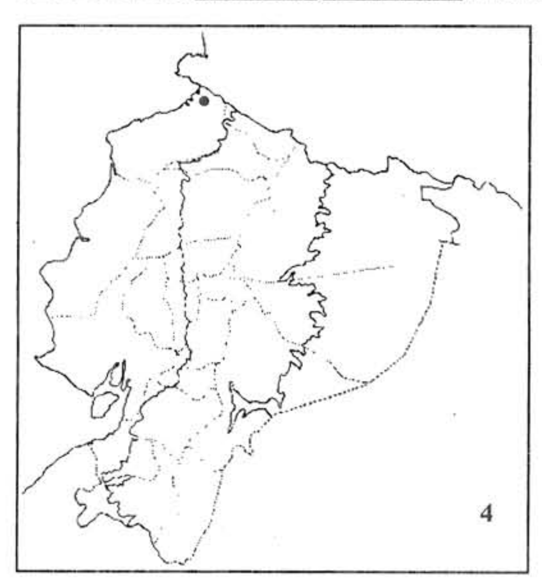
Epidendro imatophyllo Lindl. simile, sed differt habitu terrestri, non myrmecophilo, foliis ovatis, labello trilobato, lobis profunde laciniatis.

Hierba terrestre, cespitosa, hasta 180 cm de alto. **Raíces** carnosas, de la base de los tallos, 1-2.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos o algo flexuosos, 70-100 x 0.5-0.8 cm. **Hojas** numerosas, distribuidas a lo largo de la mitad o los 3/4 apicales del tallo; vaina tubular, finamente estriada, verde, manchada de morado, 2-7 cm de largo; lámina ovada, ápice bilobado, coriácea, verde con el margen del envés en ocasiones morado, 7.5-11.5 x 2.5-3.3 cm. **Inflorescencia** terminal en el tallo maduro, racemosa, subcorimbosa, erecta, produciendo nuevos racimos de los nudos superiores del pedúnculo, hasta 75 cm de largo; pedúnculo alargado, terete, recto, cubierto por brácteas imbricadas, tubulares. **Brácteas florales** triangulares, acuminadas, mucho más cortas que el ovario, 4-10 mm de largo. **Flores** sucesivas, ca. 10 abiertas a la vez con botones en diversos estados de desarrollo, no resupinadas, sin fragancia, color rojo-morado con la base de los segmentos y las nervaduras de tono más intenso, columna y antera de color más intenso, rojizas, el callo y los dos dientes apicales laterales de la columna amarillos. **Ovario** rojo-morado, delgado, terete, no inflado, 25-35 x 1.3 mm. **Sépalo dorsal** elíptico, agudo, extendido, sin quilla dorsal, membranáceo, 7-nervado, 9-10.5 x 3.5 mm. **Sépalos laterales** elípticos, ligeramente falcados, agudos, entreabiertos, sin quilla dorsal, membranáceos, 7-nervados, 11-12 x 4 mm. **Pétalos** angostamente elípticos, algo falcados, el margen superior casi recto, agudos, membranáceos, márgenes de la mitad apical eroso-denticulados, extendidos, sin quilla dorsal, 3-nervados, las nervaduras laterales ramificadas, 9.5 x 3 mm. **Labelo** unido a la columna, trilobado, membranáceo, cordiforme en forma general, bicalloso, con una quilla central, laminar, gruesa y corta, 9 x 9 mm; lóbulos cuneados, con márgenes profundamente laciniados, el lóbulo medio más grande que los laterales, emarginado. **Columna** recta, delgada, con dos dientes laterales en el ápice que se confunden con los callos del labelo, 5.5 mm de largo incluyendo los dientes laterales. **Clinandrio** obsoleto, margen entero. **Antera** ovoide, 4-locular, papilosa al frente. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas más largas que los polinios, la superficie con tétradas dispuestas como tejas; viscidio semilíquido, transparente. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** muy largos, de 2/3 del largo de la cavidad estigmática. **Nectario** profundo, penetrando 1/3 del ovario, ornamentado internamente con papilas hemisféricas. **Cápsula** no vista.

Terrestrial, caespitose **herb**. **Stems** erect, reed-like, terete, straight to somewhat flexuous. **Leaves** distributed throughout the apical 1/2 or 3/4 of the stems; sheath tubular, finely striate; blade ovoid, apex bilobed, coriaceous. **Inflorescence** terminal, from the mature stem, erect, long-pedunculate, racemose, subcorymbose, producing succesive racemes from the apical nodes of the peduncle during several years. **Flowers** successive, non-resupinate, reddish-purple, the callus and apical side teeth of the column yellow. **Sepals** elliptic, acute, 7-veined, the laterals somewhat falcate. **Petals** elliptic, acute, somewhat falcate, the apical margins erose-denticulate, 3-veined, the lateral veins branching. **Lip** united to the column, 3-lobed, cordiform in overall shape, bicallose, with a laminar keel running down the center; lobes cuneate, deeply laciniate, the midlobe larger than the lateral ones, emarginate. **Column** straight, thin, ending in two lateral teeth which can be confused with the calli of the lip. **Clinandrium** obsolete. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles somewhat longer than the pollinia, with tetrads arranged like roof tiles; viscidium semiliquid, transparent. **Rostellum** slit. **Nectary** penetrating 1/3 of the ovary, with hemispherical papillae inside.

DISTRIBUTION AND ECOLOGY: Known only from the type. This species is found in very hot, dry country, growing on sandy road-sides, completely exposed.

RECOGNITION: Epidendrum thermophilum is characterized by the very stout, tall plants with firm, coriaceous, purple-marked leaves, and reddish-purple, non-resupinate flowers with three-lobed, fimbriate lip with two yellow calli and a laminar keel running down the middle. The only other species with this combination of features is E. imatophyllum Lindl., an epiphytic species always found in ant nests or associated in some manner with ants, which has lorate leaves and entire lip with margins laciniate only below the middle. All the other species with non-resupinate flowers in the E. secundum Jacq. group have a complex, tuberculate callus.



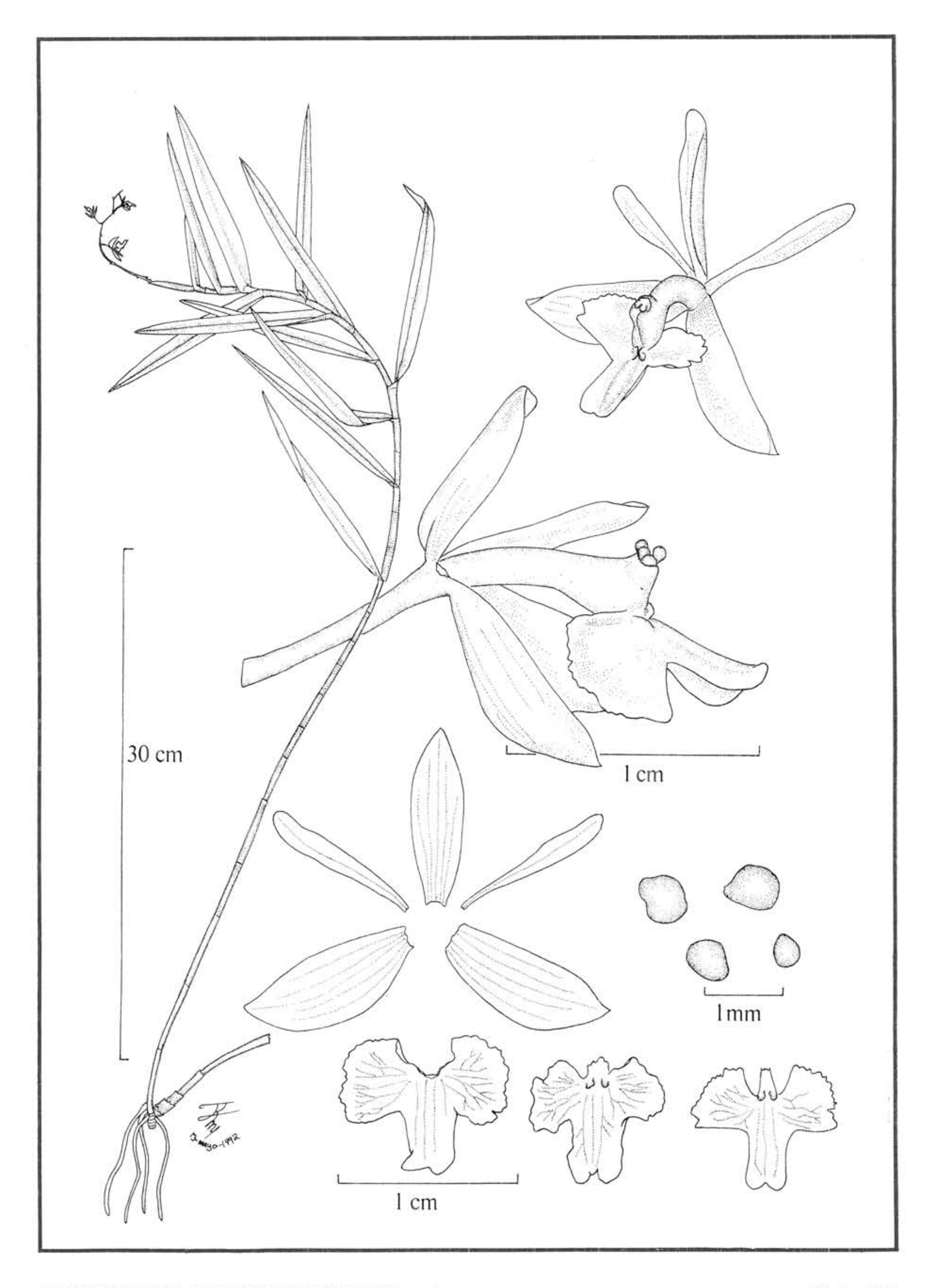
CONSERVATION STATUS: Unknown.

ETYMOLOGY: From the Greek thermos, heat, and philos, friend, in reference to the very hot habitat of this species.

Authors: E. Hágsater & C.H. Dodson Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM UTCUYACUENSE Hágsater

Plate 194

Text on the reverse side

EPIDENDRUM UTCUYACUENSE Hágsater, *sp. nov.*

Holotype: PERU: Dept. Junín, Prov. Tarma, Utcuyacu, on road between Palca and San Ramón, mountain rain forest in the valley of the Palca River, ca. 2000 m, 13 Jan. 1945, *W. H. Hodge 6246*, US! (illustration voucher.) Isotype: AMES!

Epidendro baezensi Hágsater & Dodson simile, sed differt labello profunde trilobato, lobo mediano rectangulari, longiore quam latiore.

Hierba epífita, cespitosa, 60-80 cm de alto. Raíces basales, carnosas, gruesas, 2-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 70 x 0.3-0.4 cm. **Hojas** 6-24, distribuidas en los dos tercios apicales del tallo; vaina tubular, ligeramente estriada, hasta 5 cm de largo; lámina angostamente lanceolada, aguda, margen entero, subcoriácea, lisa, 9-13 x 0.9-1.3 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, arqueada, ca. 10 cm de largo, con una espata conduplicada, tubular en la base, abierta arriba, aguda, dorsalmente carinada, 3.3 cm de largo; raquis terete, arqueado, no ornamentado. **Brácteas florales** obsoletas, triangulares, agudas, 2 mm de largo. **Flores** 12, simultáneas, resupinadas, color canela. **Ovario** no inflado, terete, no ornamentado, 8 mm de largo. **Sépalos** libres, glabros, subcarnosos, los laterales con una quilla dorsal inconspicua. **Sépalo dorsal** extendido, elíptico, agudo, márgenes extendidos, 5-nervado, 10 x 3 mm. **Sépalos laterales** entreabiertos, elípticos, agudos, márgenes extendidos, 5-nervados, 10 x 4 mm. **Pétalos** extendidos, angostamente oblanceolados, redondeados, márgenes extendidas, membranáceos, uninervados, 9 x 1.5 mm. **Labelo** unido a la columna, trilobado, bicalloso, con una carina central roma, base cordada, 6-7 mm de largo y 7.5-10 mm de ancho entre los lóbulos laterales extendidos; lóbulos de tamaño similar, los laterales semiorbiculares, erosos, el medio rectangular, emarginado, más largo que ancho, en ocasiones apiculado. **Columna** arqueada, delgada, 9 mm de largo incluyendo el clinandrio. **Clinandrio** obsoleto, margen entero. **Polinios** 4, obovoides, lateralmente comprimidos. **Nectario** poco profundo, penetrando menos de 1/4 del ovario. **Cápsula** no vista.

Epiphytic, caespitose herb. **Roots** basal, fleshy. **Stems** simple, reed-like, terete, straight. **Leaves** distributed along the apical 2/3 of the stem; sheath slightly striated; blade narrowly lanceolate, acute, subcoriaceous. **Inflorescence** terminal, from the mature stem, flowers only once, racemose, with one basal, acute spathe tubular at the base and open above. **Flowers** 12, simultaneous, resupinate, tan-colored. **Sepals** free, elliptic, acute, somewhat fleshy, the lateral ones with an inconspicuous dorsal keel, 5-veined. **Petals** narrowly oblanceolate, rounded, 1-veined. **Lip** united to column, bicallose, with a low, rounded keel running down the center, 3-lobed; lateral lobes semiorbicular, erose; midlobe rectangular, longer than wide, emarginate, sometimes apiculate. **Column** arcuate, slender. **Clinandrium** obsolete, margin entire. **Pollinia** 4, obovoid, laterally compressed.

DISTRIBUTION AND ECOLOGY: Known only from the type. Epiphyte in mountain rain forest along a river, ca. 2000 m altitude. Flowering in January.

RECOGNITION: Epidendrum utcuyacuense has been identified in the past as E. modestum Rchb. f. & Warsz., but differs from that species in the long, narrowly lanceolate leaves and the smaller spathe of the inflorescence. In habit it is very similar to E. baezense Hágsater & Dodson and indeed these two species may be closely related, but in the latter the lip is rather obscurely 3-lobed. Epidendrum excisum Lindl. has similar flowers, but the habit of the plant is quite distinct, with coriaceous, lorate, apically bilobed leaves and two large, wide spathes at the base of the inflorescence.

CONSERVATION STATUS: Undetermined.

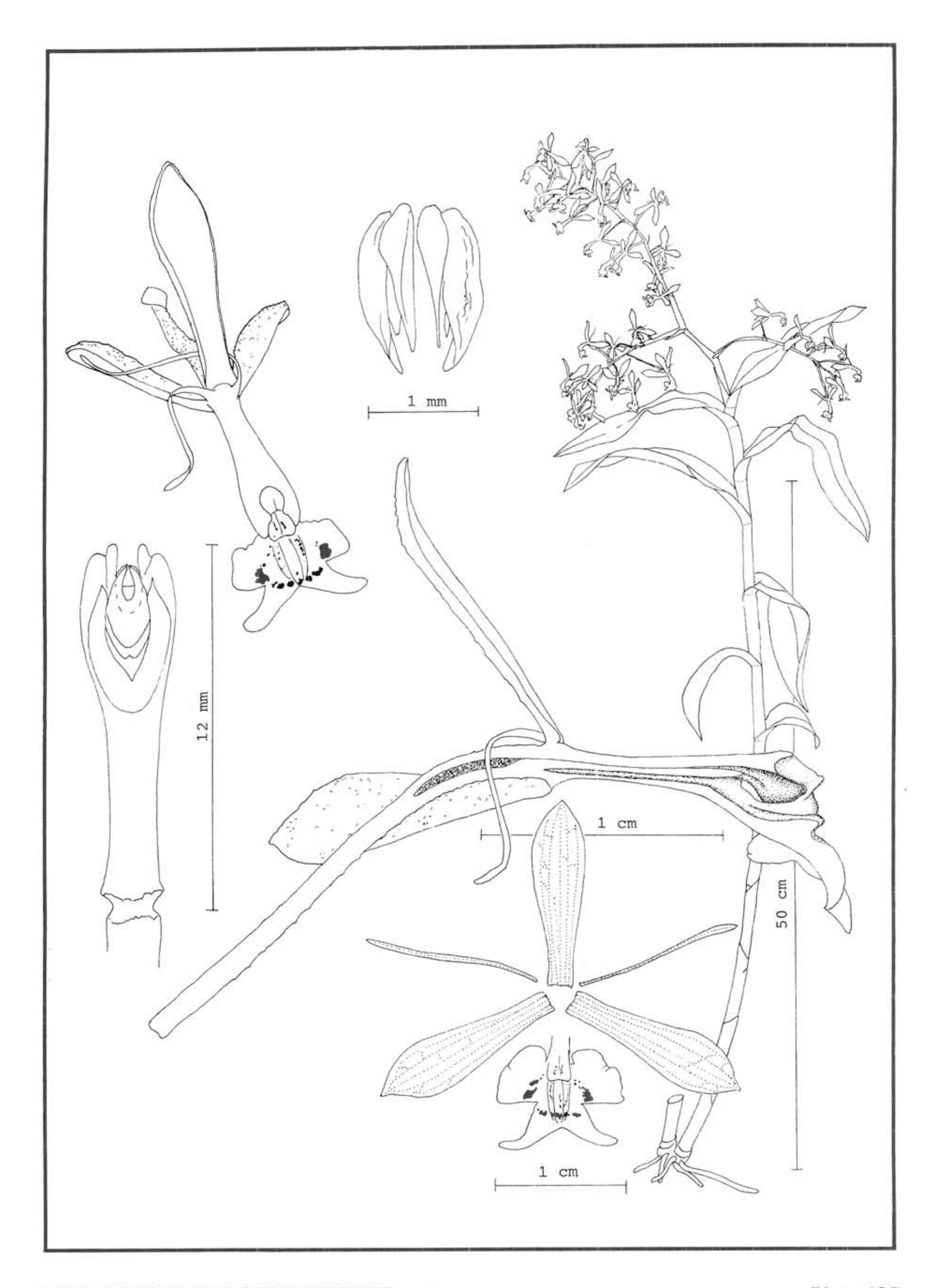
ETYMOLOGY: Named after Utcuyacu, the type locality.



Author: E. Hágsater Ilustrator: R. Jiménez Editors: E. Hágsater & G. A. Salazar

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EPIDENDRUM VEROSCRIPTUM Hágsater

Text on the reverse side

Plate 195

EPIDENDRUM VEROSCRIPTUM Hágsater, *nom. nov.*

Based on: *Epidendrum scriptum* A. Rich. & Gal., Ann. Sci. Nat. ser. 3, 3: 22. 1845. Type not indicated. Lectotype (here designated): the illustration, apparently made by H. Galeotti, with number 171 and annotated in pencil as "*Epidendrum scriptum* A. R.", with one flower and a leaf colored in watercolor, W (19618)! (tracing at AMES!)

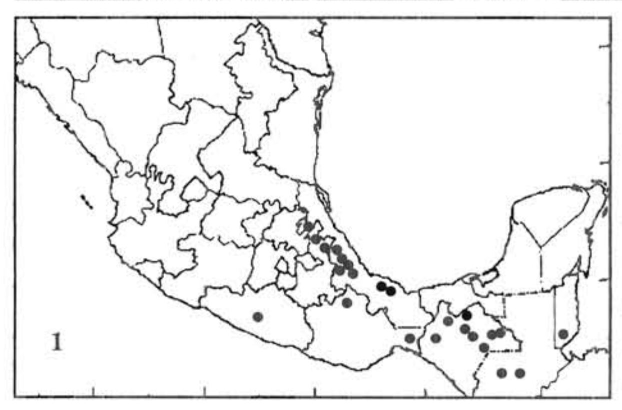
Hierba epífita o litófita, cespitosa, (32) 50-120 cm de alto. **Raíces basales**, carnosas, ca. 2.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, (13) 40-100 x 0.4-0.9 cm. **Hojas** (5) 7-14, distribuidas en la mitad apical del tallo; vaina tubular, lisa, hasta 6.5 cm de largo; lámina elíptica, aguda, margen entero, lisa, verde, 6-20 x 1.5-5.5 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, paniculada, suberecta a arqueada, 12-45 cm de largo; pedúnculo ligeramente comprimido, sin espata, generalmente sin brácteas basales o en ocasiones con dos, raramente hasta cuatro, brácteas tubulares hacia la base, acuminadas, conduplicadas, de hasta 6 cm de largo. **Bráctea floral** generalmente muy corta, hasta 2/3 del largo del ovario, triangular, acuminada, 2-6 (18) mm de largo. **Flores** 12-200, simultáneas, resupinadas, su tamaño varía hasta cierto punto de manera inversamente proporcional a su número; fragancia aparentemente ausente; sépalos, pétalos y mitad basal de la columna verde amarillento, mitad apical de la columna y labelo blancos, el disco marcado con puntos color púrpura generalmente dispuestos formando un círculo, ocasionalmente totalmente blanco (una misma planta puede mostrar variación en la coloración de un año a otro). **Ovario** no inflado, terete, finamente ornamentado, escasamente furfuráceo, 11-35 mm de largo. **Sépalos** reflexos, libres, sin quilla dorsal, fina y escasamente furfuráceos exteriormente, carnosos, angostamente espatulado-oblanceolados, obtusos, márgenes extendidos, 5-nervados, 9-17 x 3-5 mm. **Pétalos** reflexos a extendidos, filiformes, agudos, márgenes extendidos, membranáceos, uninervados, 8-16 x 0.5-0.7 mm. **Labelo** unido a la columna, 4-lobado, cordado en la base, bicalloso, con 3 carinas centrales prominentes, romas, la central llegando hasta el seno apical, 5-8 x 7.5-11 mm; lóbulos basales dolabriformes, con márgenes irregulares; lóbulos apicales bién definidos, falcados, fuertemente divaricados. **Columna** recta, delgada, 7.5-12 mm de largo. **Clinandrio** obsoleto, margen entero. **Antera** subesférica, 4-locular. **Polinios** 4, tipo "ala de pájaro", fuertemente comprimidos lateralmente, transparentes, los interiores algo menores; caudículas suaves y lisas, ligeramente más cortas que los polinios; viscidio semilíquido, transparente. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** prominentes, de poco menos de la mitad del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando solo hasta la base del perianto, liso interiormente. **Cápsula** elipsoide, ca. 20 x 10 mm, con pedicelo de 35 mm de largo.

Epiphytic or lithophytic, caespitose herb. **Stems** straight, reed-like. **Leaves** elliptic, acute. **Inflorescence** terminal, flowers only once, paniculate, suberect to arcuate. **Flowers** 12-200, simultaneous, resupinate, apparently odorless; sepals, petals and base of column yellowish-green, apical half of column and lip white, the latter usually with a ring of purple spots on the disc, occasionally completely white. **Ovary** scarcely furfuraceous. **Sepals** reflexed, narrowly spatulate-oblanceolate, obtuse, fleshy, sparsely furfuraceous on the outer surface, 5-veined. **Petals** reflexed to spreading, filiform, acute, 1-veined. **Lip** united to the column, 4-lobed, bicallose, 3-keeled, central keel running down to the apex; basal lobes dolabriform, margins irregular; apical lobes falcate, strongly divaricate. **Column** straight, slender. **Clinandrium** obsolete, margin entire. **Anther** subspherical, 4-celled. **Pollinia** 4, "bird-wing" type, strongly laterally compressed, transparent, the inner pair somewhat smaller; caudicles soft and smooth, somewhat shorter than the pollinia; viscidium semiliquid. **Rostellum** subapical, slit. **Nectary** shallow, penetrating only to the base of the perianth. **Capsule** ellipsoid, with a long pedicel.

OTHER SELECTED SPECIMENS: BELIZE: Toledo: Catling & Brownell B74.20, AMES! B75.32, AMO! DAO. **EL SALVADOR:** Hamer 444, AMES! AMO! **GUATEMALA:** Alta Verapaz: Skutch 1738, AMES! K! Türckheim 106, AMES! BR! US! **MEXICO:** Chiapas: Breedlove 10065, CAS! F! MEXU! WIS! Guerrero: Salazar et al. 554, AMO! Oaxaca: Thurston & Thurston [2433] sub Hágsater 6108, AMO! Puebla: Froderström & Hulten 807, AMES! Veracruz: Bourgeau 1917, AMES! BR! G! K! L(x2)! P(x2)! Hágsater 1669, AMO! (illustration voucher.)

DISTRIBUTION AND ECOLOGY: México (Hidalgo, Puebla, Veracruz, Guerrero, Oaxaca and Chiapas), Belize, Guatemala, and El Salvador. We are not sure of the identity of material from further south in Central America. There are similar plants in Costa Rica and Panama, but we do not know the precise limits of this taxon. Litophyte or epiphyte, in mountain rain forest and cloud forest, from 700 to 1950 m altitude. Flowering throughout the year but apparently mainly from August to October.

RECOGNITION: Epidendrum veroscriptum is a member of a complex of closely related species that also includes E. atroscriptum Hágsater and E. roseoscriptum Hágsater. Epidendrum veroscriptum is distinguished by having few (1-2) or no bracts at the base of the inflorescence, simultaneous flowers, the apical lobes of the lip well separated from the basal lobes and divaricate, and the markings of the lip deep purple and forming a circle around the disc, with few to many dots on the center of the disc itself. Markings may vary from year to year. Plants from the Pacific slope of Mexico may have few or no markings on the lip.

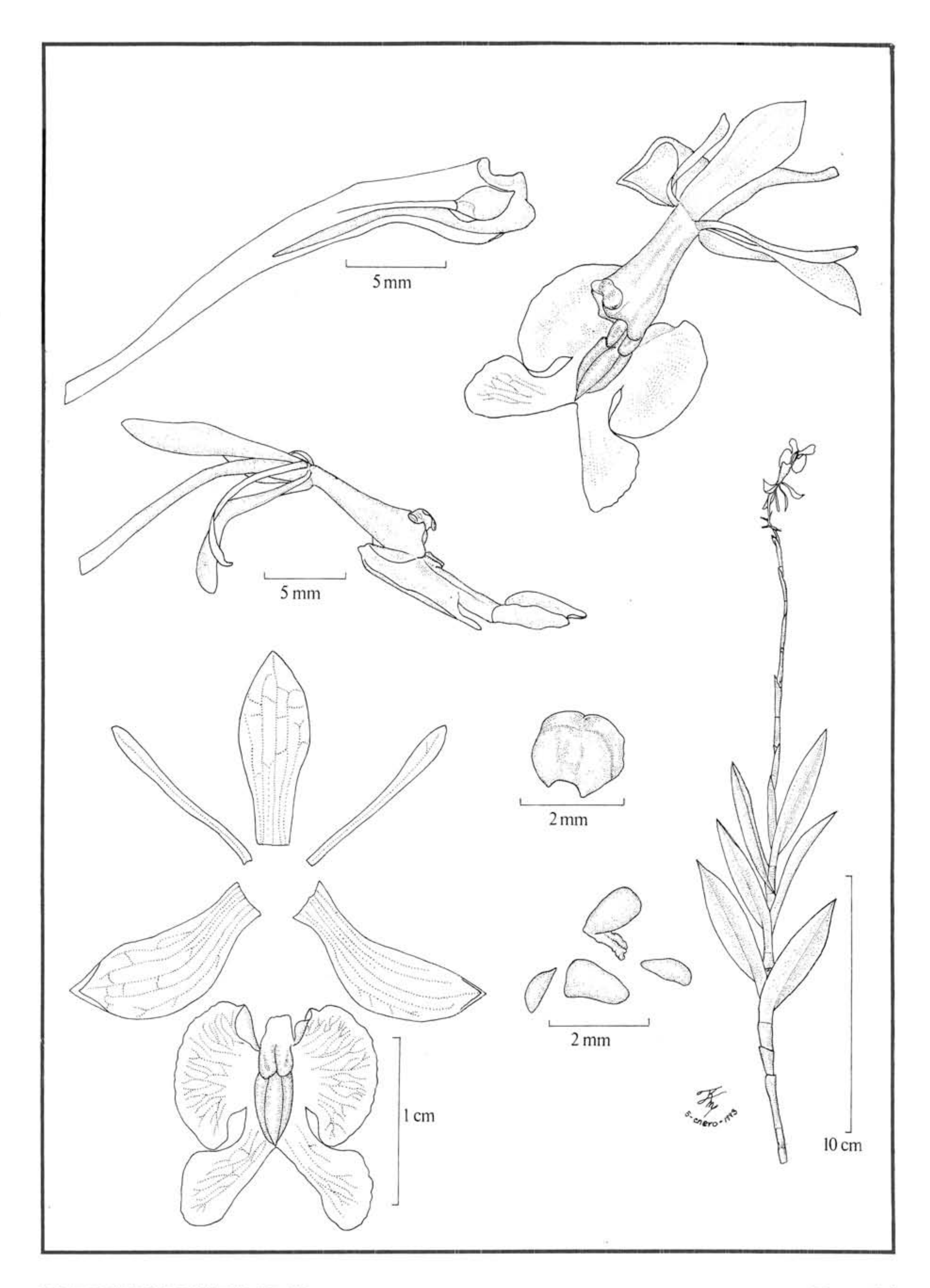


CONSERVATION STATUS: Not threatened. This species is widespread and common.

ETYMOLOGY: From Latin vero, in truth, and scriptum, in reference to the fact that this is the true Epidendrum scriptum of A. Richard and Galeotti, not of Linnaeus. The Latin term scriptum, written matter, was applied by Richard and Galeotti to this species by virtue of the markings of the lip.

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EPIDENDRUM VIEIRAE Hágsater

Text on the reverse side

Plate 196

EPIDENDRUM VIEIRAE Hágsater, *sp. nov.*

Holotype: COLOMBIA: Antioquia: Mpio. Yarumal, carretera a El Cedro, 1750 m, 13 enero 1989, *L. C. Vieira sub Escobar 3991*, AMO! (illustration voucher.) Isotype: (flowers in alcohol) JAUM.

Epidendro turialvae Rchb. f. simile, sed differt labelli lobis apicalibus prominentibus, versus apicem conspicue latioribus, supra medio oblique ovatis.

Hierba epífita, cespitosa, ca. 25 cm de alto. **Raíces** basales, carnosas. **Tallos** erectos, rectos, tipo caña, lateralmente comprimidos, ancipitosos, cubiertos en la base por vainas tubulares papiráceas, ca. 12 cm de largo, 2-3 mm de ancho. **Hojas** ca. 7, distribuidas en los 2/3 apicales del tallo; vaina tubular, ancipitosa, 1-1.2 x 0.2-0.4 cm; lámina angostamente elíptico-lanceolada, aguda, graminoide, verde, morada en el envés, 5-5.6 x 0.9-1.4 cm. **Inflorescencia** terminal, del tallo maduro, florece durante varios años produciendo nuevos racimos; pedúnculo alargado, ancipitoso en la base, recto, parcialmente cubierto por brácteas, la basal parece una espata tubular, ancipitosa, aguda, 3.5 cm de largo, las demás progresivamente más pequeñas, conduplicadas, agudas; racimos cortos, raquis de ca. 1 cm de largo. **Bráctea floral** ovada, aguda, ca. 2.5 mm de largo. **Flores** 3-4, simultáneas, fragancia no registrada, color "amarillo verdoso". **Ovario** delgado, 13 mm de largo. **Sépalos** oblanceolados, agudos, carnosos, reflexos, 5-nervados, los laterales oblicuos, 10-13 x 4.5-5 mm. **Pétalos** lineares, reflexos, uninervados, 10-11.5 x 1 mm. **Labelo** unido a la columna, 4-lobado, bicalloso, con tres quillas romas, carnosas que recorren todo el disco hasta el seno apical, 15 x 12 mm; lóbulos basales dolabriformes, margen eroso, 5.5 x 8 mm; lóbulos apicales divaricados, prominentes, muy ensanchados y oblicuamente ovados arriba de la mitad, margen apical eroso, 7 x 4 mm. **Columna** recta, delgada, terminada en una prominencia triangular (en ángulo recto) a cada lado del ápice, 8 mm de largo. **Clinandrio** obsoleto. **Antera** ovoide, 4-locular. **Polinios** 4, tipo "ala de pájaro", translúcidos, fuertemente comprimidos lateralmente, los interiores algo más pequeños; caudículas 4, en 2 pares, laminares, algo más cortas que los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** prominentes, de 1/3 del largo de la cavidad estigmática. **Nectario** corto, penetrando 1/4 del ovario. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stems** straight, reed-like, ancipitous. **Leaves** elliptic-lanceolate, acute, grass-like, purple on the underside. **Inflorescence** terminal, erect, flowering during several years producing new racemes; peduncle elongated, racemes short. **Flowers** 3-4, simultaneous, resupinate, "greenish-yellow". **Sepals** reflexed, oblanceolate, acute, fleshy, 5-veined. **Petals** linear, reflexed, 1-veined. **Lip** united to the column, 4-lobed, bicallose, 3-keeled, keels running down to the apical sinus; basal lobes dolabriform, margin erose; apical lobes divaricate, prominent, much broadened and obliquely ovate above the middle. **Column** straight, slender. **Clinandrium** obsolete. **Anther** ovoid, 4-celled. **Pollinia** 4, "bird-wing" type, strongly compressed laterally, translucent, the inside pair somewhat smaller; caudicles laminar, somewhat shorter than the pollinia. **Rostellum** apical, slit. **Nectary** shallow, penetrating 1/4 of the ovary.

DISTRIBUTION AND ECOLOGY: Known only from the type.

RECOGNITION: Epidendrum vieirae belongs to the E. paniculatum Ruiz & Pav. group and the E. turialvae Rchb. f. complex. The closest known relative is E. turialvae, from Costa Rica, from which E. vieirae can be distinguished by the shorter, smaller leaves, long-pedunculate inflorescence with few-flowered racemes, greenish-yellow flowers, and much larger apical lip lobes which are conspicuously broadened above the middle. Epidendrum rodrigoi Hágsater, from Colombia, is also similar but has a light pink, somewhat hyaline lip.

CONSERVATION STATUS: Unknown.

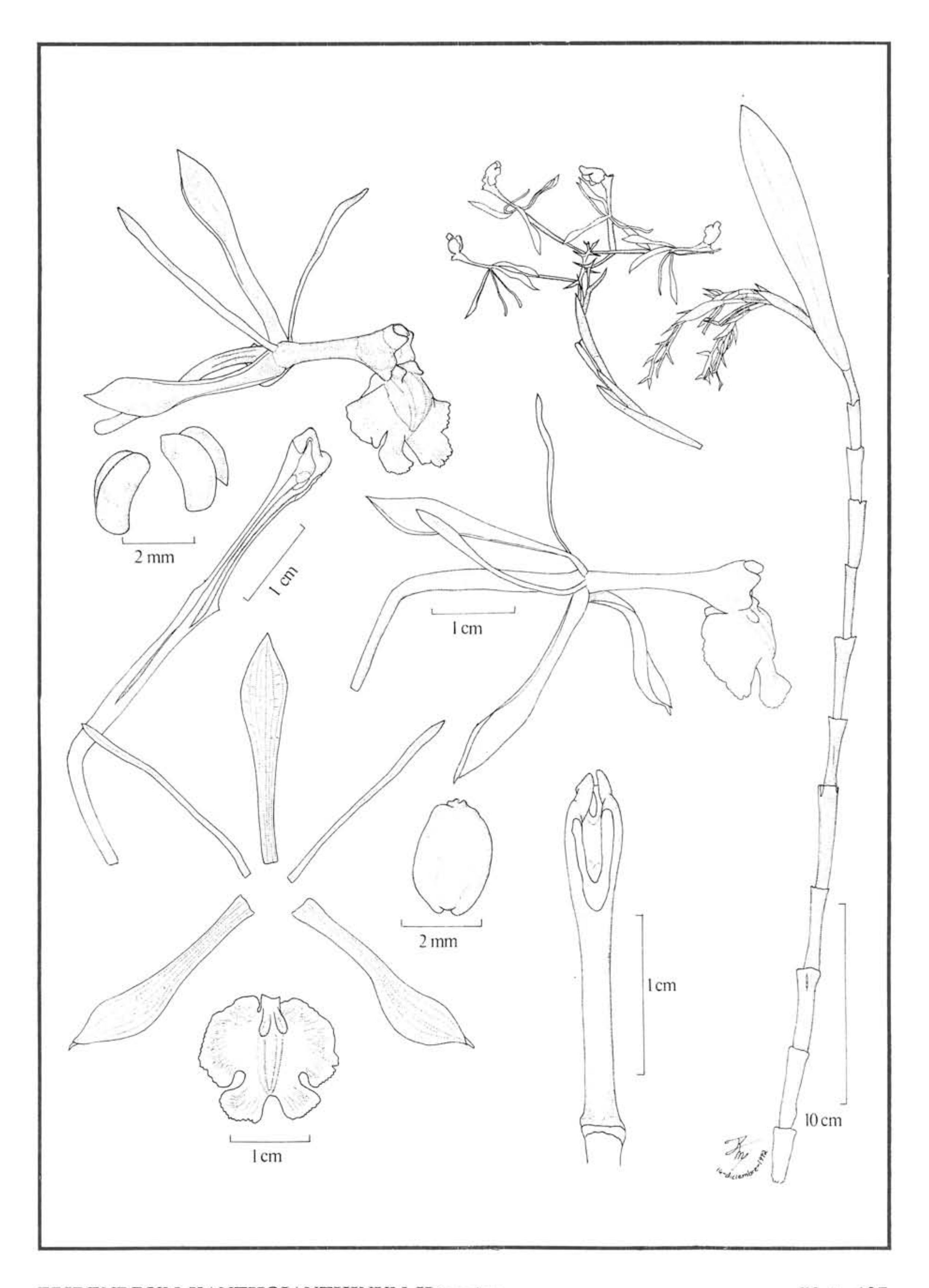
ETYMOLOGY: Named in honor of Luis Carlos Vieira, a member of the Sociedad Colombiana de Orquideología of Medellín, who has a keen interest in native species and collected and cultivated the plant from which the type was prepared.



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EPIDENDRUM XANTHOIANTHINUM Hágsater

Text on the reverse side

Plate 197

EPIDENDRUM XANTHOIANTHINUM Hágsater, *nom. et stat. nov.*

Based on: *Epidendrum pseudepidendrum* Rchb. f. var. *auratum* Rchb. f., Gard. Chron. 406. 1885. Holotype: Hort. *William Bull*, watercolor sketch, W (49599)! (*non Epidendrum auritum* Lindl. *nec Epidendrum auratum* Bateman ex Gajón Sánchez).

Hierba cespitosa, ca. 60 cm de alto. **Raíces** basales, carnosas. **Tallos** erectos, rectos, tipo caña, teretes, cubiertos en la base por vainas tubulares papiráceas, ca. 45 cm de largo, 8 mm de grosor. **Hojas** numerosas, distribuidas a lo largo de los dos tercios apicales del tallo; vaina tubular, hasta 4.5 x 0.8 cm; lámina angostamente elíptica, aguda, 15 x 2.4 cm. **Inflorescencia** terminal, del tallo maduro, florece durante varios años del mismo racimo; pedúnculo 6-10 cm de largo, terete, arqueado, totalmente cubierto por brácteas, la basal espatácea, tubular en la mitad basal, conduplicadas, carinadas hacia el ápice truncado, 3-6 cm de largo; racimo terminal, corto. **Bráctea floral** triangular, aguda, 6-15 mm de largo. **Flores** 3-4, simultáneas, fragancia no registrada, sépalos y pétalos verdes, labelo amarillo limón con el disco morado, columna verde en la base, morado sobre blanco en la mitad apical, antera blanca. **Ovario** delgado, 44-48 mm de largo. **Sépalos** oblanceolado-espatulados, agudos, carnosos, reflexos, 5-nervados, los laterales algo oblicuos, 27 x 6 mm. **Pétalos** filiformes, extendidos, 1-nervados, 27 x 1 mm. **Labelo** unido a la columna, 4-lobado, carnoso, bicalloso, con tres quillas romas que recorren todo el disco hasta el seno apical, 16 x 18 mm; lóbulos laterales dolabriformes, márgen eroso; lóbulos apicales divaricados, subcuadrados, margen apical eroso. **Columna** recta, delgada, termina en un diente (en ángulo recto) a cada lado del ápice, 21 mm de largo. **Clinandrio** obsoleto. **Antera** ovoide, 4-locular. **Polinios** 4, tipo "ala de pájaro", translúcidos, lateralmente fuertemente comprimidos, los interiores algo más pequeños; caudículas y viscidio no vistos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/3 del largo de la cavidad estigmática. **Nectario** corto, apenas penetrando detrás del perianto. **Cápsula** no vista.

Caespitose herb. **Stems** straight, reed-like, terete. **Leaves** elliptic, acute. **Inflorescence** terminal, flowering during several years; peduncle elongated, arcuate, covered by bracts; raceme terminal, short. **Flowers** simultaneous, resupinate; sepals and petals green, lip lemon-yellow with the disk purple, column green at the base, the apex white and purple, anther white. **Sepals** reflexed, oblanceolate-spatulate, acute, fleshy, 5-veined. **Petals** filiform, reflexed, 1-veined. **Lip** united to the column, 4-lobed, bicallose, 3-keeled, keels running down to the apical sinus; lateral lobes dolabriform, margin erose; apical lobes divaricate, subquadrate, apical margin erose. **Column** straight, slender. **Clinandrium** obsolete. **Anther** ovoid, 4-celled. **Pollinia** 4, "bird-wing" type, strongly laterally compressed, translucent, the inside pair somewhat smaller. **Rostellum** apical, slit. **Nectary** shallow, barely penetrating beyond the perianth.

OTHER SPECIMENS: COLOMBIA: Valle del Cauca: Múnera & Escobar 154, AMO! (illustration voucher.)

DISTRIBUTION AND ECOLOGY: Known only from Colombia, at ca. 1800 m altitude. Flowering in September.

RECOGNITION: Epidendrum xanthoianthinum belongs to the E. paniculatum Ruiz & Pav. complex and is closely related to E. pseudepidendrum Rchb. f., from which is easily distinguished by the lip being lemon-yellow with the disc violet-purple, 4-lobed, whereas the latter has an entire, orange-red lip.

CONSERVATION STATUS: Unknown.

ETYMOLOGY: From the Greek xanthos, yellow and ianthinus, violet-colored, in reference to the color combination of the lip, the edge lemon-yellow and the disc and calli (and apex of the column) violet-purple.

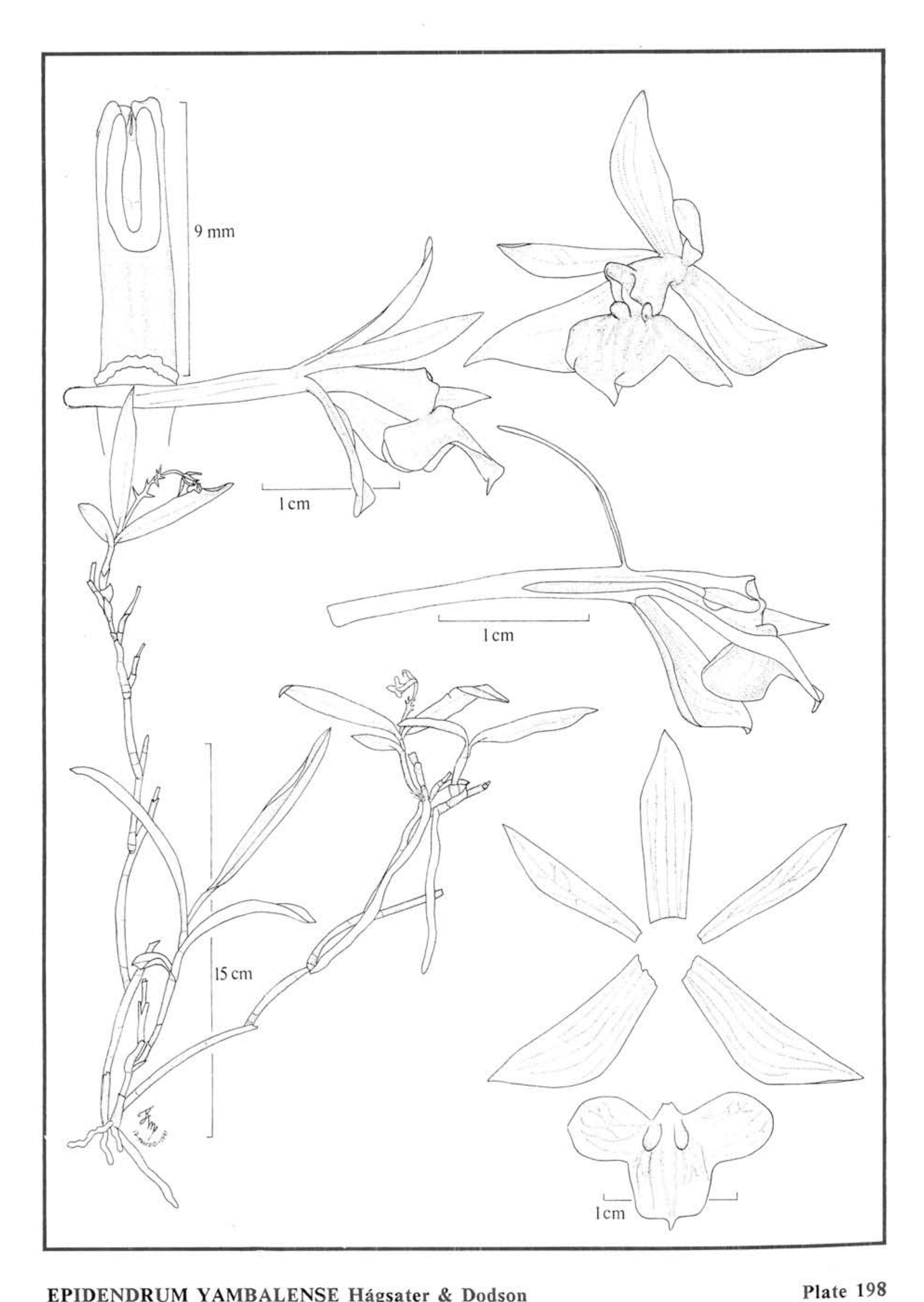
REFERENCES: Day, J. (unpubl.). Scrapbook of Orchid Drawings 44: 53 (color illustration prepared in 1885, original kept at K); Escobar, R. 1991. Orquídeas Nativas de Colombia 2: p. 172, fig. C-No. 185, as Epidendrum sp.; Lückel, E. 1977. Epidendrum pseudepidendrum, die Geschichte einer Orchideenrarität. Die Orchidee 28(1): 8-13.



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EPIDENDRUM YAMBALENSE Hágsater & Dodson

Text on the reverse side

Plate 198

EPIDENDRUM YAMBALENSE Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Loja; 5 km upriver from Vilcabamba on the Río Yambala, 1650 m, 10 April 1986, *D. Dalessandro 519*, RPSC! (illustration voucher.)

Epidendro morganii Dodson & Garay simile, sed differt labello trilobato, lobis lateralibus suborbicularibus, lobo mediano subquadrato, apiculato.

Hierba epífita, de simpodio erecto donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, 20-30 cm de alto. **Raíces** de la base de la planta y ocasionalmente de la base de un tallo superior, carnosas, gruesas, 2-4 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 3-12 cm de largo, 2-4 mm de grosor. **Hojas** 3-4, agrupadas hacia el ápice de cada tallo; vaina tubular, lisa, hasta 2 cm de largo; lámina angostamente elíptica, aguda, margen entero, herbácea, lisa, verde, 2-9 x 0.7-1.1 cm. **Inflorescencia** terminal, del tallo en desarrollo, florece una sola vez, racemosa, erecta, 2-5 cm de largo; pedúnculo lateralmente comprimido, recto, no ornamentado, sin espata, sin brácteas. **Flores** 4-7, aparentemente sucesivas, resupinadas, color verde amarillento, el labelo teñido de morado. **Bráctea floral** de un poco menos de la mitad del largo del ovario, triangular, acuminada, 3-6 mm de largo. **Ovario** no inflado, terete, 15-20 mm de largo. Sépalos extendidos, libres, con quilla dorsal inconspicua en los laterales, glabros, membranáceos. **Sépalo dorsal** oblanceolado, agudo, márgenes extendidos, 5-nervado, 14 x 5-4.5 mm. **Sépalos laterales** oblicuamente oblanceolados, agudos, márgenes extendidos, 5-nervados, 15 x 5 mm. **Pétalos** entreabiertos, angostamente oblanceolados, agudos, membranáceos, márgenes extendidos, 1-nervados, la nervadura ramificada, 13 x 2.5 mm. **Labelo** unido a la columna, trilobado, bicalloso, con una carina central roma prolongada hasta el ápice y dos carinas laterales cortas y ramificadas, carnoso, 10 x 16 mm; lóbulos laterales suborbiculares; lóbulo medio de tamaño similar a los laterales, subcuadrado, apiculado, márgenes enteros. **Columna** recta, delgada, 9-10 mm de largo. **Clinandrio** no prominente, obcónico, margen entero. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños. **Nectario** profundo, penetrando 1/3 del ovario, liso interiormente. **Antera, polinario y cápsula** no vistos.

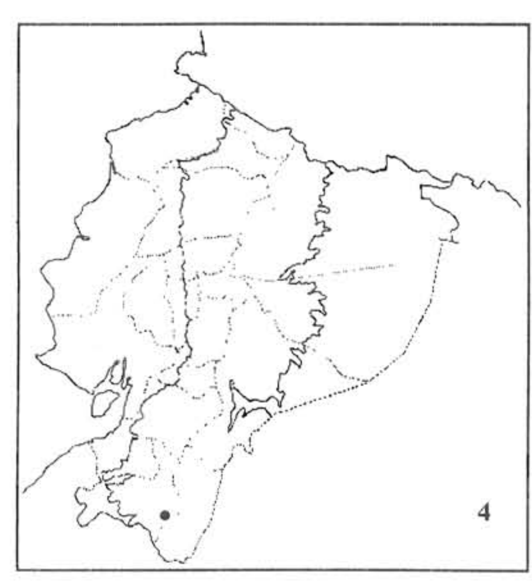
Epiphytic herb. **Roots** fleshy, from the base of the plant and occasionally from the base of one of the upper stems. **Stems** straight, reed-like, arising from a middle internode of the previous stem. **Leaves** 3-4, narrowly elliptic, produced towards the apex of the stem. **Inflorescence** terminal, from the developing, immature stem, erect, racemose, flowers only once. Flowers 4-7, apparently successive, resupinate, green, the lip flushed with purple. **Sepals** oblanceolate, acute, 5-veined, membranaceous, laterals oblique. **Petals** narrowly oblanceolate, acute, 1-veined, the vein branching. **Lip** united ot the column, 3-lobed, bicallose, 3-keeled, the central keel continuous almost to the apex, the lateral ones shorter, branching; lateral lobes suborbicular; midlobe subquadrate, apiculate. **Column** straight. **Clinandrium** not prominent, obconical, entire. **Nectary** penetrating 1/3 of the ovary.

DISTRIBUTION AND ECOLOGY: Known only from the type, growing on a tree over the river at 1650 m altitude. Flowering in March and April.

RECOGNITION: This plant has erect stems where the new growth arises from a middle internode of the previous stem, short, 4-7 flowered racemes and membranaceous, green flowers with 3-lobed, purplish lip with raised veins, suborbicular lateral lobes and subquadrate, apiculate midlobe. Epidendrum morganii Dodson & Garay is closely related but has an entire, cordiform lip.

CONSERVATION STATUS: Unknown.

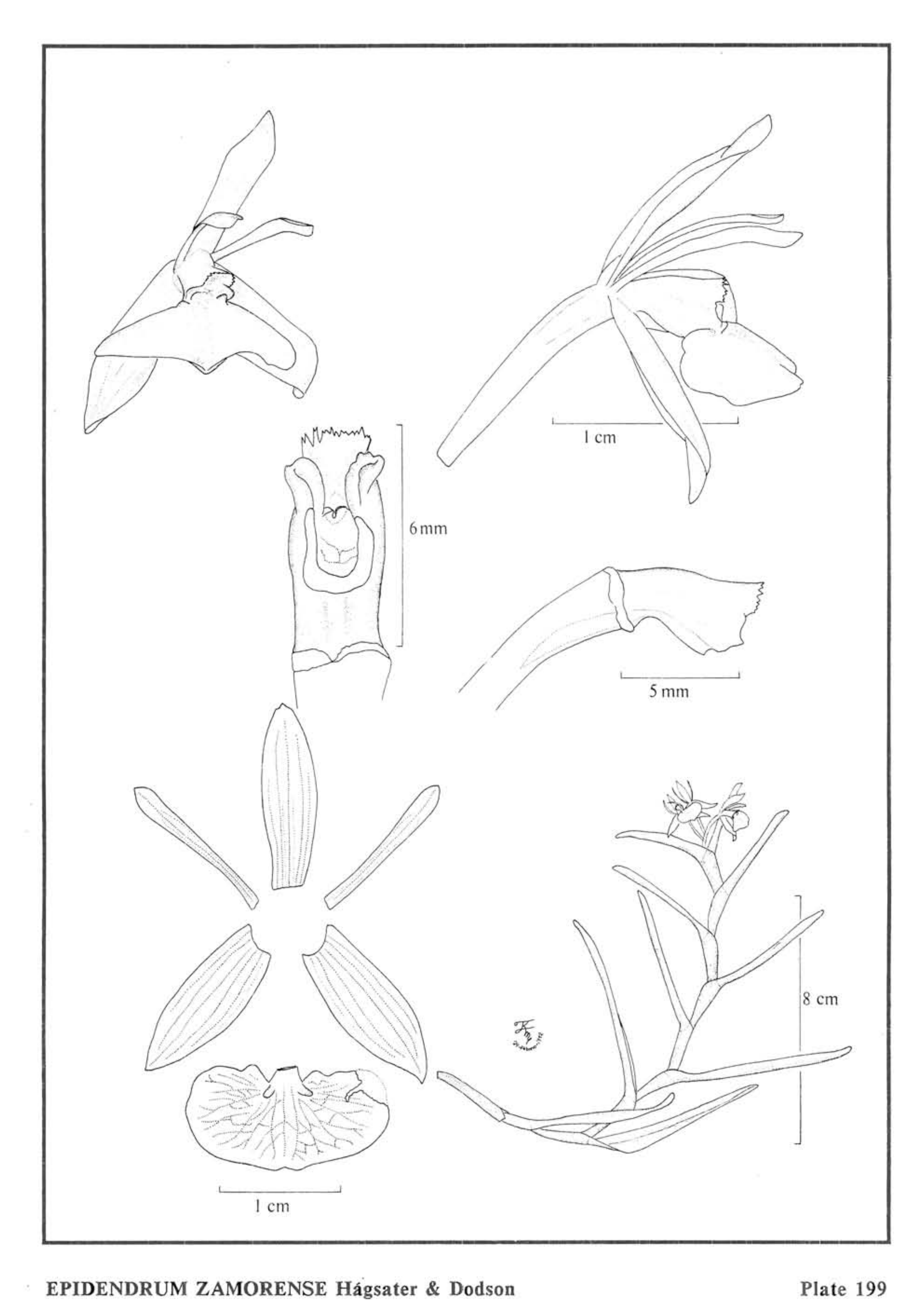
ETYMOLOGY: The name refers to the Yambala river which runs through Vilcabamba, and on whose banks the species was discovered.



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EPIDENDRUM ZAMORENSE Hágsater & Dodson

Text on the reverse side

Plate 199

EPIDENDRUM ZAMORENSE Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: Province Napo, below Rio Hollín on road Cotundo to Coca, 800 m, 15 Jan. 1988, *D. Neill sub C. H. Dodson 17389*, RPSC! (illustration voucher.)

Epidendro chogoncolonchensi Hágsater & Dodson simile, sed differt caulibus teretibus, foliis anguste oblanceolatis, 3 floribus, columna recta vel leviter arcuata, clinandrio promineti, dentato.

Hierba epífita, cespitosa, 21 cm de alto. Tallo sencillo, tipo caña, terete, ligeramente flexuoso, ca. 18 cm de largo. **Hojas** 9-11, equidistantes a lo largo del tallo; vaina tubular, no ornamentada, 1.5-1.7 cm de largo; lámina angostamente oblanceolada, ápice redondeado, lisa, subcoriácea, verde claro, 3-6 x 0.5 cm. **Inflorescencia** terminal en el tallo maduro, florece una sola vez, sésil. **Bráctea** floral mucho más corta que el ovario, lisa, 1.5 mm de largo. **Flores** 3, simultáneas, resupinadas, color verde pálido. **Ovario** no inflado, terete, no ornamentado, 20-22 mm de largo. **Sépalos** subcoriáceos, extendidos, libres, glabros. **Sépalo dorsal** elíptico, agudo, margen entero, ligeramente revoluto, 5-nervado, 13.3 x 4.5 mm. **Sépalos laterales** elípticos, agudos, márgenes enteros, revolutos, 5-nervados, 14.5 x 5.4 mm. **Pétalos** membranáceos, oblanceolados, obtusos, márgenes enteros, extendidos, 3-nervados, 14.5 x 1.6 mm. **Labelo** unido a la columna, entero, reniforme, bicalloso, los callos pequeños, base cordada, ápice ligeramente retuso, márgenes enteros, subcoriáceo, 7.4 x 16.7 mm. **Columna** recta a ligeramente arqueada, 7.4 mm de largo. **Clinandrio** prominente, entero, margen dentado. **Antera** 4-locular. **Polinios** 4, subiguales, lateralmente comprimidos; caudículas suaves y granulosas; viscidio viscoso, translúcido. **Rostelo** hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad estigmática. **Nectario** profundo, penetrando alrededor de la mitad del ovario. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stems** reed-like, terete, slightly flexuous. **Leaves** 9-11, oblanceolate, apex rounded, subcoriaceous. **Inflorescence** terminal, flowers only once, sessile. **Flowers** 3, resupinate, simultaneous, pale green. **Sepals** subcoriaceous, glabrous, spreading, free, elliptic, acute, margin entire, revolute, 5-veined. **Petals** membranaceous, oblanceolate, obtuse, margin entire, spreading, 3-veined. **Lip** united to the column, entire, reniform, bicallose, base cordate, margin entire, apex somewhat retuse. **Column** slightly arcuate. **Clinandrium** prominent, entire, margin dentate. **Rostellum** slit. **Nectary** penetrating about half the ovary.

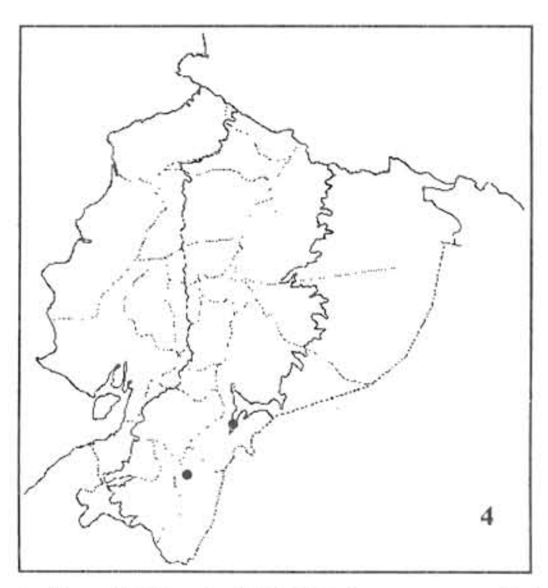
OTHER SPECIMENS: ECUADOR: Morona-Santiago: Hirtz et al. 2404, RPSC! Zamora: Dodson 144, SEL!

DISTRIBUTION AND ECOLOGY: Known only from Ecuador. Epiphyte, at 800-1000 m altitude. Flowering from January to July.

RECOGNITION: Epidendrum zamorense, a member of the E. difforme Jacq. complex, is recognized by having terete stems, narrowly oblanceolate leaves, reniform, retuse lip with entire margin, slightly arcuate column and denticulate clinandrium. It is very similar to E. chogoncolonchense Hágsater & Dodson, which has laterally compressed stems, ovate leaves, two light-green flowers and crenulate clinandrium.

CONSERVATION STATUS: Undetermined.

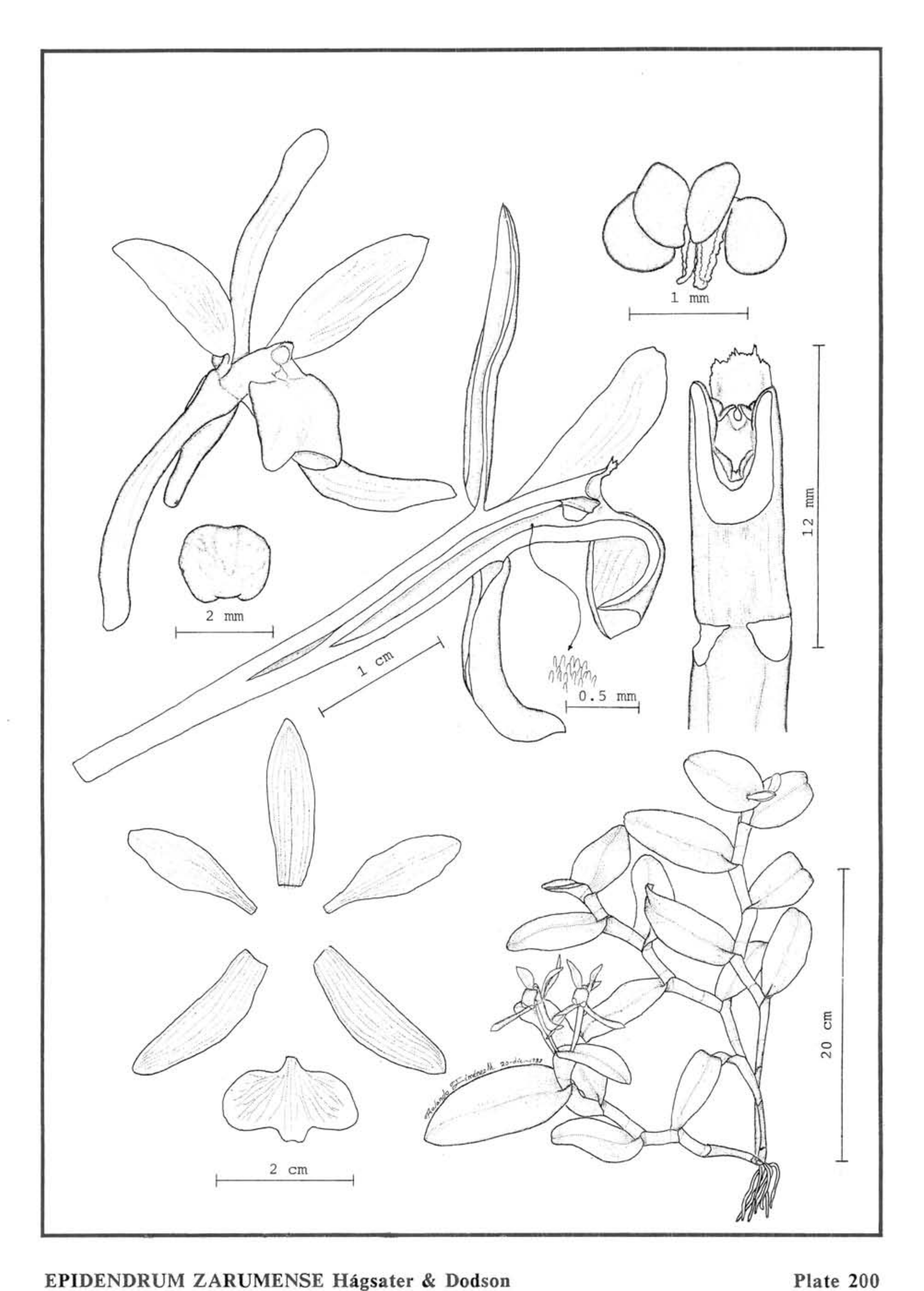
ETYMOLOGY: The epithet zamorense refers to Zamora, one of the Ecuadorean provinces where this species was found.



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EPIDENDRUM ZARUMENSE Hágsater & Dodson

Text on the reverse side

Plate 200

EPIDENDRUM ZARUMENSE Hágsater *et* Dodson, *sp. nov.*

Holotype: ECUADOR: El Oro: Zaruma, Parroquia Malvas, comprada a Emilio Román en Guayaquil, 18 noviembre 1988, *E. Hágsater 9585*, AMO! (illustration voucher.) Isotype: RPSC! Clonotypes: 27 diciembre 1988, MEXU! 21 agosto 1990, ENCB! 28 noviembre 1990, XAL! 6 agosto 1991, US! 21 octubre 1991, NY!

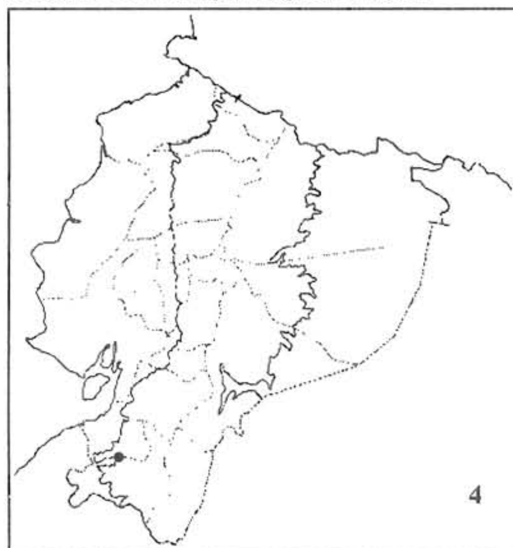
Epidendro amapensi Hágsater & L. Sánchez simile, sed differt caulibus aliquantum lateraliter compressis, 4 floribus successivis, resupinatis, labello ecalloso, columna recta, clinandrio prominenti.

Hierba epífita, cespitosa, 25-30 cm de alto. **Raíces** basales, carnosas delgadas, 0.7-1.6 mm de grosor. **Tallo** sencillo, tipo caña, algo comprimido lateralmente, flexuoso, 9-24 x 0.3-1.8 cm, dilatado hacia el ápice. **Hojas** 3-7, equidistantes a lo largo del tallo; vaina lateralmente comprimida, lisa, 2.5 cm de largo; lámina angosta a ampliamente elíptica u ovada, ápice asimétricamente bilobado a obtuso, no ornamentado, margen entero, coriácea, superficie lisa y brillante cuando joven, áspera al madurar, ligeramente carinada dorsalmente, color verde glauco, especialmente glauca en el envés, 3-9.5 x 1.3-3.8 cm. **Inflorescencia** terminal en el tallo maduro, florece varias veces produciendo racimos de los nudos basales del pedúnculo original, puede producir dos racimos simultáneamente del mismo tallo, sésil. **Bráctea floral** mucho más corta que el ovario, amplexicaule, ovada, 3-5 mm de largo. **Flores** 1-4, simultáneas, resupinadas, con fragancia nocturna, color verde glauco. **Ovario** ligeramente inflado longitudinalmente en el tercio apical, terete, no ornamentado, 23-60 x 2.5-5 mm. **Sépalos** subcoriáceos, extendidos, libres, glabros. **Sépalo dorsal** elíptico, obtuso, márgenes enteros, revolutos, 7-nervado, con dos nervios secundarios a los lados del nervio central, 23-30 x 6-7 mm. **Sépalos laterales** elípticos, ligeramente falcados, obtusos, márgenes enteros, revolutos, 7-nervados, con 2 nervios secundarios a los lados del central, 18-35 x 6-8 mm. **Pétalos** subcoriáceos, elípticos, unguiculados, obtusos, márgenes extendidos, 3-nervados, los nervios laterales ramificados desde la base de manera que parecen 7- ó 9-nervados, 24-29 x 7-9 mm. **Labelo** unido a la columna, trilobado, ecalloso, subcoriáceo, 9-12 x 14-20 mm; lóbulos laterales más grandes que el lóbulo medio, deflexos en posicion natural, oblicuamente ovados, margen entero; lóbulo. medio trapezoide, retuso, margen entero; en flores recién abiertas el labelo está extendido y conforme va madurando la flor los lóbulos laterales se van doblando hacia atrás. **Columna** recta, 8-12 mm de largo, sin prominencias apicales. **Clinandrio** prominente, entero, margen eroso-dentado. **Antera** subesférica, sin ornamentación, 4-locular. **Polinios** 4, subiguales, obovoides, lateralmente comprimidos; caudículas suaves y granulosas, ligeramente más largas que los polinios; viscidio viscoso, translúcido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** prominentes, de 2/3 del largo de la cavidad estigmática. **Nectario** profundo, penetrando casi la mitad del ovario, prominentemente papiloso a todo lo largo, las papilas más largas en la parte superior. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stems** reed-like, somewhat laterally compressed, flexuous. **Leaves** 3-7, narrowly to widely elliptic to ovate, apex unequally bilobed to obtuse, glaucous, green. **Inflorescence** terminal, flowers several times producing racemes from the original peduncle. **Flowers** 1-2, simultaneous, resupinate, glaucous green, fragrant at night. **Ovary** slightly inflated longitudinally above the middle. **Sepals** subcoriaceous, spreading, free, elliptic, obtuse, margins entire, revolute; laterals somewhat falcate. **Petals** subcoriaceous, elliptic, clawed, obtuse, margins spreading. **Lip** united to the column, 3-lobed, ecallose; lateral lobes obliquely ovate, deflexed; midlobe trapezoid, retuse. **Column** straight. **Clinandrium** prominent, margin erose-dentate. **Anther** subspherical. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent. **Rostellum** subapical, slit. **Lateral stigma lobes** prominent, of about 2/3 the length of the stigmatic cavity. **Nectary** deep, penetrating about half the ovary, prominently papillose.

OTHER SPECIMENS: ECUADOR: El Oro: Hágsater 9586, AMES! F! IBUG! MO! U! W! Dodson et al. 17964, AMO! RPSC! Espinoza 1519, AMES!

DISTRIBUTION AND ECOLOGY: Known only from Ecuador. Epiphyte, on old trees in cloud forest, from 1200 to 1500 m altitude. Flowering throughout the year.



RECOGNITION: Epidendrum zarumense is a member of the E. difforme Jacq. complex, being recognized by the somewhat laterally compressed, flexuous stems, glaucous green leaves, 1-2 simultaneous, glaucous green flowers, ecallose, 3-lobed lip with the lateral lobes deflexed and the midlobe trapezoid, retuse, and column straight with prominent, erose clinandrium. It is similar to E. amapense Hágsater & L. Sánchez, which has smaller plants, more strongly compressed, ancipitous stems, and the lip conspicuously bicallose.

CONSERVATION STATUS: Probably not threatened. Although this species has been little collected it appears to be common locally.

ETYMOLOGY: The epithet zarumense refers to Zaruma, the locality where the species was found.

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